

Lathyrus database: Lathyrism <1970 Bibliography

leg. D. Enneking May 2003

- Ramazzani, B. (1691). **Constitutio epidemica anni 1691 ad Leibnitzium**. Mutin:quarto.
Observed patients in the dukedom of Modena who suffered from a weakness of the lower extremities as consequence of eating 'legumi', especially 'ervo'. [D.E.: Is 'ervo' L. cicera or V. ervilia?].
Source: ref ex Schuchardt (1885-87)
Lathyrism Italy/ Italy lathyrism/ Lathyrus/ Vicia ervilia toxicity/ History lathyrism/ Lathyrism history/ Lathyrus cicera toxicity/ Lathyrus cicera History/ Italy/ Lathyrism/ Lathyrism L. cicera/ Lathyrus toxicity/ Toxicity L. cicera/ Toxicity/ Vicia/ Vicia ervilia.
- Ramazzini, B. (1739). **Constitutio epidemica urbana omni, 1691, Art. 32. Opera Omnia**, Londini: Vol. 1, p. 145.
Source: ref ex Selye (1957); Jiménez Díaz (1941)
Lathyrism Italy/ Italy lathyrism/ Lathyrism history/ History/ Italy/ Lathyrism.
- Duvernoy, G. D. (1770). **Dissertazione de Lathyri quadam Venenata Specia in Comitatu Montbelgardensi cultur**. Basiliae.
Consumption of L. cicera seeds caused stiffness of feet (joints) in men.
Source: ref ex Schuchardt (1885-87); Moya et al 1967
Lathyrism history Germany/ Lathyrus/ Lathyrus cicera toxicity/ Toxicity L. cicera/ Lathyrism Germany/ Germany lathyrism/ Lathyrus cicera/ Germany/ History/ Lathyrism/ Lathyrism history/ Lathyrism L. cicera/ Lathyrus toxicity/ Humans/ Seed/ Toxicity.
- Linguet and Tissot (1780). **Ueber das Getreide und Brod, nebst Geschichte einer giftigen Art Erbsen**. Zuerich, octavo.
L. cicera or L. sativus consumption led to leg paralysis; (translated from French into German by Hirzel, 1780).
Source: ref ex Schuchardt (1885-87)
Lathyrus toxicity/ Lathyrism history/ Lathyrus sativus/ Lathyrus cicera/ Germany/ History/ Human consumption/ Lathyrism/ Lathyrism Germany/ Lathyrism L. cicera/ Humans/ Paralysis/ Toxicity L. cicera/ Toxicity L. sativus/ Toxicity/ Translation.
- Von Hirzel, F. (1780). **Ueber das Getreide und Brod (About, over grain and bread). Vol. 8**. Zuerich: Linguet and Tissot.
Source: ref ex Selye (1957)
Lathyrus bread grain/ Bread/ Lathyrism Germany.
- Tozzetti, O. T. (1785 (circa)). **Sulla Lathyrus cicera**. Atti Della Soc. Econom. Di Firenze 2:96
Source: ref ex Schuchardt (1885-87)
Lathyrus cicera toxicity/ Lathyrism L. cicera/ Lathyrism history/ Lathyrus cicera/ History/ Lathyrism/ Lathyrus toxicity/ Toxicity L. cicera Toxicity.
- Tozzetti, O. T. (1793). **Memoria letta nell'adunanza della R. Accademia dei Georgofili di Firenze 1 di 3. Agosto dal Dott. Ott. T. Tozzetti, Socio di detta Accademia, P. prof. di Botanica etc. Accresciuta adesso di note, e di copiose aggiunte del medesimo (72 pp.)**. Firenze.
Lathyrism in Toscana in 1784. Bread 1 part cereal 2 parts Lathyrus sativus imported from Tunisia caused paralysis after three months consumption. Plants were identified after growing them out in the botanical garden.
Source: ref ex Schuchardt (1885-87)
Lathyrus sativus toxicity/ Lathyrism history/ Italy Toscana lathyrism/ Lathyrism Italy Toscana/ Lathyrus sativus/ Bread/ Dhal/ History/ Italy Italy L. sativus/ Italy lathyrism/ Lathyrism/ Lathyrism Italy/ Lathyrus toxicity/ North Africa/ Africa North/ Paralysis/ Toxicity L. sativus Toxicity/ Tunisia.
- Deslandes (1820 (circa)). **Nachteilige Wirkung des Genusses der Vicia monanthes**. Biblioth. Physico-Economique 3:330.
Deslandes (Thiebaud de Bernard). Reported similar cases as Vilmorin (1847) from the Department de la Sarthe, France in the Journal des Maires [DE?]. Also see Heusinger (1821).
Source: ref ex Schuchardt (1885-87) 1885-87
Vicia monantha toxicity/ Vicia toxicity/ Lathyrus toxicity/ Lathyrism/ France/ Vicia/ Canavanine/ Lathyrism France/ Toxicity/ Vicia monantha Vilmorin.
- Heusinger, C. F. (1821). **Deslandes zu Bazouges bei La Fleche, Nachtheilige Wirkung von Vicia monanthes (Thiebaud de Bernard, biblioth. physico-economique. Tome 3, p. 330), mitgetheilt und mit einer Nachschrift versehen**. Rust's Magazin Fuer Heilkunde 9:357-361
Source: ref ex Schuchardt (1885-87)

Lathyrus/ Lathyrism/ Vicia monantha toxicity/ France/ Vicia/ Canavanine/ Vicia monantha/ Toxicity V. monantha/ Fungi/ Mycology
Lathyrism France/ Lathyrus toxicity/ Microbiology/ Rust/ Toxicity.

Desparanches, F. (1829). **Le lathyrisme**. Bull. Scient. Méd **18**:433

Source: ref ex Selye (1957), read abs only

Lathyrism.

Marshall, H. (1833-1835). **Notes on the medical topography of Ceylon**. Art. 'Barbier' in Cycl. Pract. Med

Source: ref ex Selye (1957)

Lathyrism Ceylon/ Ceylon lathyrism/ Ceylon/ Lathyrism.

Sleeman, W. H. (1836-1844). **Rambles and recollections of an Indian official, octavo, 2 vols**. London.
vol. 1 Sangor, India, 1833, several lathyrism cases following 3 years of poor cereal harvests, famine and *L. sativus* being major part of the diet as a consequence.

Source: ref ex Schuchardt (1885-87)/Selye (1957)

Famine India/ Lathyrism India/ History lathyrism/ Lathyrism history/ India lathyrism/ Famine/ Malnutrition/ Lathyrus sativus/ Diet/ History
India/ India Dietary/ Dietary/ India *L. sativus*/ India malnutrition/ Lathyrism.

Desbats (1840). Bulletin De Chirurgie **19**.

Refers to animal feeding experiments with *Lathyrus* seeds carried out by Cottereau and Caignon. These were unable to produce lathyrism symptoms in dogs, rabbits and hens.

Source: ref ex Schuchardt (1885-87)

Rodents/ Canine bioassay/ Poultry bioassay/ Bioassay poultry/ Bioassay rodents/ Bioassay canine/ *Lathyrus* sp. toxicity/ Lathyrism/ Bioassay
Agriculture/ Lathyrism symptoms/ Animal feeding/ Dogs/ Feeding/ Lathyrism animals/ Lathyrism Bioassay/ *Lathyrus* sp./ *Lathyrus* toxicity
Poultry/ Rabbits/ Seed/ Symptoms lathyrism/ Toxicity rodents bioassay/ Toxicity.

Tribunal de Niort (1840). Journal D'Agriculture Pratique **4**:91-.

The effects of consuming bread made from *Lathyrus cicera* admixed with wheat flour are by judgement of the tribunal authentically constated [authentisch constatirt].

Source: ref ex Schuchardt (1885-87)

Lathyrus cicera bread toxicity/ France *L. cicera* toxicity/ Lathyrism France/ *Lathyrus cicera*/ Agriculture/ Bread/ Flour/ France/ Lathyrism
Lathyrism *L. cicera*/ *Lathyrus* toxicity/ Toxicity *L. cicera*/ Toxicity/ *Triticum aestivum*.

Chevallier (1841). **Le lathyrisme**. Annales D'Hygiène **26**:126

Source: ref ex Selye (1957)

Lathyrism.

Pellicotti, T. and Pellicotti, N. (1847). [**Lathyrismus in den Abruzzen**]. Il Filatre Sebezio. Napoli.

30 cases of Lathyrism and malnutrition following the ingestion of *Lathyrus*.

Source: ref ex Schuchardt (1885-87)

Lathyrism Italy/ Italy lathyrism/ History lathyrism/ Lathyrism history/ Famine/ Malnutrition/ History/ Italy/ Lathyrism.

Vilmorin (1847). **Note sur le danger de l'emploi dans le pain de la graine de jarosse**. Annales D'Hygiène Publ[ique] **37** (74):467-469.

A case of Lathyrism in a 20 year old young man was observed in 1819 in the region of Bourgueil (Indre- et-Loire), France. Other cases of lathyrism were known to have occurred in the region.

Source: ref ex Schuchardt (1885-87)

Lathyrus/ Lathyrism history/ Lathyrism France/ France lathyrism/ Lathyrism epidemiology/ *Lathyrus sativus*/ Epidemiology lathyrism/ France
History/ Lathyrism/ Humans/ Vilmorin.

Irving, J. (1857). The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta

Source: ref ex Jiménez Díaz (1941)

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Irving, J. (1859). **Notice of a form of paralysis of the lower extremities, extensively prevailing in part of the district of Allahabad, produced by the use of *Lathyrus sativus* as an article of food**. The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta [Ann. Ind. Med. Sci.] **6**:424-.

Lathyrism. All cases occurred during the rainy season. More men than women and more poor than well off people were affected. Swampy ground appears to increase the toxicity of *Lathyrus sativus* seeds. This has also been reported by Laudon for *L. cicera*. Plants grown on [waterlogged] (sehr feucht: very moist) soils are more dangerous than those grown on dry ground.

Source: ref ex Schuchardt (1885-87)

Lathyrism India/ India lathyrism/ Waterlogging/ Environmental effects/ Toxicity/ Poverty/ Soil/ Lathyrus sativus/ Lathyrus cicera/ Environment Flooding/ Food/ India/ India L. sativus/ Lathyrism/ Lathyrism L. cicera/ Lathyrus toxicity/ Humans/ Paralysis/ Seed/ Toxicity L. cicera Toxicity L. sativus/ Water.

Kirk, K. (1859). **Topography of the Upper Sindu. The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta [Ann. Ind. Med. Sci.] 6:59-70.**

Describes the paralyzing properties of Lathyrus sativus in detail.

Source: ref ex Schuchardt (1885-87)

Lathyrus sativus toxicity/ India lathyrism/ Lathyrism India/ Symptoms lathyrism/ Toxicity L. sativus/ Farming systems/ Lathyrus sativus Agriculture/ Lathyrism symptoms/ Flooding/ India/ India L. sativus/ Lathyrism/ Lathyrus toxicity/ Toxicity/ Water.

Dufour, L. (1860). **[A case of Lathyrism caused by Lathyrus cicera in Algier]. Recueil De Memoires De Med. Etc. Milit. Paris 3. Ser III**

Source: ref ex Schuchardt (1885-87)

Lathyrism/ Lathyrus cicera toxicity/ Toxicity L. cicera/ Lathyrism Algeria/ Algeria lathyrism/ Africa North lathyrism/ Lathyrism Africa North/ Lathyrus cicera/ Africa/ Algeria/ Lathyrism L. cicera/ Lathyrus toxicity/ North Africa/ Africa North/ Toxicity.

Irving, J. (1861). **Farther notice of paraplegia caused by the use of Kessaree dal (Lathyrus sativus) in Mirzperre district and another parts of India. The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta 7:501-**

Source: ref ex Schuchardt (1885-87)

Lathyrism India/ India lathyrism/ Lathyrism history/ History lathyrism/ Lathyrus sativus/ Dhal/ History/ India/ India L. sativus/ Lathyrism Paraplegia.

Irving, J. (1861). **Report on a species of palsy prevalent in Pergunnah, Kirhagar [Kyshagur], in Zillah, Allahabad from the use of Lathyrus sativus or Kessaree dal, as an article of food. The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta 7:127-**

Source: ref ex Schuchardt (1885-87)

Lathyrism India/ India lathyrism/ Lathyrus sativus/ Dhal/ Food/ India/ India L. sativus/ Lathyrism/ Prevalence/ Reports.

Luc (1862). **Gangrene spontanee de deux extremités inferieures, observee chez un arabe, et suivie de guerison sans amputation. Recueil De Memoires De Med. Etc. Milit. Paris 3. ser. VIII:52-56**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Algeria/ Gangrene lathyrism/ Lathyrism/ Lathyrism gangrene/ North Africa/ Africa North.

Bertrand (1867). **Gangrene spontanee de deux membres inferieures; double amputation. Recueil De Memoires De Med. Etc. Milit. Paris 3. Ser. XVIII:330-**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Lathyrism gangrene/ Gangrene lathyrism/ Lathyrism symptoms/ Algeria/ Lathyrism/ North Africa/ Africa North/ Symptoms lathyrism.

Hattute (1868). **Des gangrenes spontanees chez les Kabyles. Recueil De Memoires De Med. Etc. Milit. Paris 3. Ser. XXI:518-531**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Lathyrus cicera toxicity/ Toxicity L. cicera/ Lathyrism gangrene/ Gangrene lathyrism/ Lathyrus cicera Algeria/ Lathyrism/ Lathyrism L. cicera/ Lathyrus toxicity/ North Africa/ Africa North/ Toxicity.

Irving, J. (1868). **Notice of paraplegia caused by the use of Lathyrus sativus in the various districts of the north-western provinces of India. The Indian Annals of Medical Science, or Half-Yearly Journal of Practical Medicine and Surgery. Calcutta [Ann. Ind. Med. Sci.] 12:89-124.**

Questionnaire Survey on Lathyrism and its causes. Similar to the occurrence of beriberi, rainy season always correlated with the onset of lathyrism [D.E.: malnutrition?]. The relative immunity of women to the disease is remarkable.

Source: ref ex Schuchardt (1885-87)

Lathyrism India/ India lathyrism/ Famine/ Malnutrition/ Lathyrus sativus/ Beriberi/ Binding sites/ Immunity/ India/ India L. sativus/ India malnutrition/ Lathyrism/ Humans/ Paraplegia/ Surveys.

Pellicotti, N. (1869). **Sul latirismo alatus e sua nell'economia animale [Monograph on Lathyrus alatus and its detrimental effect on animal husbandry]. Gionale Abruzzese Di Medicina e Chirurgia Pratica 4:5-**
Pellicciotti [alternative spelling] date 1869 or 1879.

Source: ref ex Schuchardt (1885-87); Jiménez Díaz (1941)

Lathyrism/ Lathyrus alatus/ Toxicity/ Animal/ Economy/ Agriculture/ Lathyrism animals/ Lathyrus toxicity/ Monograph.

Cantani, A. (1873). **Latirismo (Lathyrismus) illustrata da tre casi clinici. Il Morgagni 15:745-765.**
Arnoldo Cantani, a medical practioner from Naples, Italy, coined the term lathyrism.

Source: ref ex Selye (1957); Grmek (1980)
Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

Cantani, A. (1874). **Latirismo (Lathyrismus) illustrata de tre casi clinici.** Gaz Hebd De Méd **11**:170

Source: ref ex Selye (1957)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

Loudon (1880). **Loudon's Encyclopedia of plants.** London: Longmann's, Green & Co.

p. 620 Lathyrus. A name employed by Theophrastus to designate a leguminous plant. It is said by his commentator Bodaeus a Stapel, to have been derived from (la) an augmentative particle , and (thyros), any thing which is exciting; and to have been applied to this plant in consequence of certain aphrodisiacal qualities ascribed to it. *L. sativus* , Gesse fr. is frequently sown in Switzerland for soiling horses. In several parts of the continent, a white light pleasant bread is made from the flour of this pulse, but it produced such dreaded effects in the last century that the use of it was forbid by an edict of George, Duke of Würtemberg in 1671; and this not being observed was enforced by two other edicts under his successor Leopold, in 1706 and 1714 . Mixed with wheat flour in half the quantity, it makes a very good bread, that appears to be harmless. But bread made with this flour only has brought on a most surprising rigidity of the limbs in those who have used it for continuance; insomuch that the exterior muscles could not by any means be reduced, or have their natural action restored. These symptoms usually appeared on a sudden, without any previous pain; but sometimes they were preceded by a weakness and disagreeable sensation about the knees. Baths, both hot and cold, fomentations and ointments of various kinds have been tried without effect; insomuch that it is regarded as incurable, and neither very painful nor fatal, those who are seized with it usually submit to it with patience. Swine fattened with this meal lost the use of their limbs, but grew fat lying on the ground. A horse fed some months on the dried herb, was said to have its legs perfectly rigid. Kine [cattle] are reported to grow lean on it [cf. Allden and Geytenbeek, 1984], but sheep are not affected. Pigeons, especially young ones, lose the power of walking by feeding on the seed. Poultry will not readily touch it, but geese eat it without apparent damage. In some parts of Switzerland, cattle feed on the herb without harm. It would be worth inquiring, therefore, whether the soil may not contribute something to the ill qualities of the plant: and it is remarked that the seed from a strong, fat, moist soil, is much more deleterious than from a light one. (Duvernoy). Fabbrioni, from Florence, in 1786, says, that the government there has cautioned the peasants against the use of *Lathyrus sativus*; swine having lost the use of their limbs, and become pitiable monsters by being fed on this pulse exclusively. The peasants, however, eat it boiled, or mixed with wheat flour, in the quantity of one-fourth, without any harm. The poisonous *Lathyrus* from Barbary, is *L. semine punctato* of Casp. Bauhin, and seems to be only a variety, for in the crops of *L. sativus* in Italy, they find black seeds striped with white, as in the African seed. Fabbrioni suspects it to be a mule between *L. sativus* and *L. cicera*, for the flower and seed partake of the characters of both; having a black seed marked with white; and a white banner with a red keel to the corolla. (Fabbrioni's Letters in MSS. Banks). *L. odoratus* is one of our most esteemed border annuals, and is extensively grown in pots for decorating chambers and windows. *L. tingitanus*, *articulatus*, and *annuus* are also sown as border annuals. *L. tuberosus* produces tubers on the roots, like those of the earth nut (*Bunium bulbocastanum*); these are sold in the markets of Holland, like those of *Orobis tuberosus* and *Trapa natans*, and their flavour is highly esteemed. *L. latifolius* is a very showy plant for shrubberies, arbors and trellis work, and yields a great quantity both of green fodder and seeds, which some botanists have suggested might be applied to agricultural purposes. *Ochrus*(okros), yellow, in allusion to the colour of its flowers. plant with yellow flowers, native of hedges in the south of Europe.

Source: reprintDE

Pigs/ Pigeons/ Geese/ Human consumption/ *Lathyrus*/ Lathyrism history/ *Vicia*/ *Pisum*/ Hard to cook/ Grain legumes/ Theophrastus Aphrodisiac/ Poultry/ Switzerland/ Algeria/ *Lathyrus semine punctato*/ *Lathyrus articulatus*/ *Lathyrus annuus*/ *Lathyrus tuberosus*/ *Lathyrus latifolius*/ *Pisum maritimum*/ *Vicia sylvatica*/ *Vicia cracca*/ *Vicia sativa*/ *Vicia narbonensis*/ *Vicia serratifolia*/ Cultivation/ Germany/ *Vicia sepium*/ *Vicia faba*/ Environmental variation toxicity/ Ruminants/ Horticulture/ Forage/ Soil/ *Lathyrus sativus*/ *Lathyrus cicera*/ *Lathyrus ochrus* *Lathyrus tingitanus*/ *Lathyrus odoratus*/ Cattle/ Horses/ Agriculture/ Lathyrism symptoms/ Agriculture history/ Bauhin/ Bees/ Bovine feed Brain/ Bread/ Cattle feed/ Cold/ Colour/ Corolla/ Entomology/ Environment/ Europe/ Fats/ Feed/ Feeding/ Feed ruminants/ Feed *Vicia sativa* Feed *Lathyrus sativus*/ Feed *Lathyrus cicera*/ Feed *Lathyrus ochrus*/ Feed *Lathyrus tingitanus*/ Flavour/ Flour/ Flowers/ Fodder/ Pulses/ History Horse diseases/ Horses lathyrism/ Horticulture *L. odoratus*/ Italy/ Italy *L. sativus*/ Italy lathyrism/ Lathyrism/ Lathyrism Algeria/ Lathyrism Germany/ Lathyrism horses/ Lathyrism Italy/ Lathyrism *L. cicera*/ *Lathyrus toxicity*/ Humans/ Intercropping/ Mixtures crops/ Muscles/ North Africa/ Africa North/ Ornamentals/ Ornamentals *L. odoratus*/ *Orobis*/ Pigs/ Roots/ Ruminant feed/ Ruminants *L. sativus*/ Seed/ Sensation Sheep/ Sheep feed/ Symptoms lathyrism/ Toxicity *L. cicera*/ Toxicity *L. latifolius*/ Toxicity *L. odoratus*/ Toxicity *L. sativus*/ Toxicity *L. sativus* poultry/ Toxicity/ *Triticum aestivum*/ reprint.

Brunelli, B. (1880a). **Due casi di paraplegia spastica.** Boll D R Accad Med Di Roma **6** (8):3-9.

Fed rabbits with the flour but these never lived long enough to develop any lesions.

Source: ref ex Schuchardt (1885-87)

Lathyrus cicera animal experiments/ Lathyrus cicera toxicity/ Bioassay rabbits/ Rabbit bioassay L. cicera/ Lathyrism Italy/ Italy lathyrism Rodents/ Lathyrus cicera/ Bioassay/ Flour/ Italy/ Lathyrism/ Lathyrism animals/ Lathyrism Bioassay/ Lathyrism L. cicera/ Lathyrus toxicity Paraplegia/ Rabbits/ Toxicity L. cicera/ Toxicity rodents bioassay/ Toxicity.

Brunelli, B. (1880b). **Due casi di paraplegia spastica.** Trans 7th Internat Med Congr, London 2:45

Source: ref ex Selye (1957)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism/ Paraplegia.

Brounelli (1881). **Sur une cause peu connue de tabes dorsalis spasmodique.** Trans 7th Internat Med Congr, London 1

Source: ref ex Jiménez Díaz (1941)

Lathyrism/ Lathyrism history/ History.

Bourlier, A. (1882). **Le lathyrisme.** Gaz Méd D'Algérie (Alger) [Alg Med] 17:139-141.

Interesting presentation about Lathyrism at the Medical School Algiers (3. 7.1882). Competent treatment of the botany and clinical details. Animal experiments with extracts of Lathyrus cicera. Frogs and small birds died after two hours to 2 days. Paralysis of the legs was observed. Bourlier tends to think that lathyrism is caused by a disturbance of the posterior strands, in the posterior white and grey matter (in der weissen und grauen Substanz) and of a part of the side strands (Seitenstraenge) of the spine, analogous to the Tabes dorsalis spasmodica of Erb and Charcot.

Source: ref ex Selye (1957); Schuchardt (1885-87); Jiménez Díaz (1941)

Lathyrism/ Neurology/ Lathyrus cicera/ Bioassay/ Algeria/ Extraction/ Lathyrism Algeria/ Lathyrism animals/ Lathyrism Bioassay/ Lathyrism L. cicera/ North Africa/ Africa North/ Paralysis/ Poultry/ Reptiles/ Spine.

Hamelin (1882). **Gesse.** Dictionnaire Encyclopedique Des Sciences Medicales. 48 Vol. Paris 44:642.

Gives historical information and observations about animals (e.g. horses) being affected by Lathyrus consumption. Horses are affected through paralysis of the left nervus laryngeus.

Source: ref ex Schuchardt (1885-87)

Animals/ History/ Lathyrism/ Lathyrus spp toxicity/ Toxicity Lathyrus spp/ Lathyrus sativus history/ Lathyrism history/ France Lathyrus spp toxicity/ Lathyrism France/ France lathyrism/ Horses lathyrism/ Lathyrism horses/ Nervus laryngeus paralysis/ Paralysis left nervus laryngeus Larynx paralysis/ Paralysis larynx/ Lathyrus sativus/ Agriculture/ Agriculture history/ France/ Horse diseases/ Horses/ Larynx/ Lathyrism animals/ Lathyrus spp/ Lathyrus toxicity/ Nerves/ Neurology/ Paralysis/ Toxicity L. sativus/ Toxicity.

Astier, L. (1883). **Contribution a l'étude du lathyrisme: intoxication chronique par les gesse** These No 163. Lyon: Pitrat Aîné Ed.

Milk and meat seem to increase the toxicity of the Lathyrus flour. Astier carried out some animal experiments injecting Lathyrus seed extract subcutaneously. He observed inappetence, tremors followed by paralysis in a dog. He also managed to isolate a volatile toxic substance which he called lathyrine and attempted its chemical characterisation (D.E.: amine ?).

Source: ref ex Schuchardt (1885-87)

Lathyrism/ Lathyrus sativus toxicity/ Bioassay canine/ Canine bioassay/ Toxicity L. sativus/ Amines/ Lathyrus sativus/ Bioassay/ Bioassay L. sativus/ Lathyrus sativus bioassay/ Dogs/ Flour/ Injections/ Lathyrism animals/ Lathyrism Bioassay/ Lathyrus toxicity/ Meat/ Milk/ Paralysis/ Seed/ Tingitanine/ Toxicity.

Bouchardt and Bourlier (1883). Progres Med 65

Source: ref ex Jiménez Díaz (1941)

Lathyrism history/ History/ Lathyrism.

Bouley (1883). **Discussion sur le lathyrisme médullaire spasmodique.** Bull. Acad. De Med. (Paris) 12:866.

see also Gabory, R. Discussion sur le lathyrisme medullaire spasmodique. Bull. Acad. De Med. (Paris). 1883; 12:871.

Source: ref ex Selye (1957)

Lathyrism.

De Renzi, E. (1883). **Sul latirismo.** Giorn. Internaz. D. Sci. Med. Napoli N. S. V.:777-780

Source: ref ex Schuchardt (1885-87)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

Delafond (1883). Recueil De Medicine Veterinaire Pratique. Paris.

Animal poisonings caused by gesse (Lathyrus sativus).

Source: ref ex Schuchardt (1885-87)

Lathyrus sativus toxicity animals/ Lathyrism animals/ Animals L. sativus toxicity/ Toxicity L. sativus animals/ Lathyrus sativus/ Lathyrism Lathyrus toxicity/ Toxicity L. sativus/ Toxicity.

Gabory, R. (1883). **Discussion sur le lathyrisme medullaire spasmodique.** Bull. Acad. De Med. (Paris) **12:871-**

see also Bouley. Discussion sur le lathyrisme médullaire spasmodique. Bull Acad Méd Paris. 1883; 12:866.

Source: ref ex Selye (1957)

Lathyrism.

Giorgini, F. (1883). **Due casi di Latirismo nella clinica di Parma.** Annal. Univ. Di Medic. e Cirug:263

Source: ref ex Jiménez Díaz (1941)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

Lunier (1883). **Discussion sur le lathyrisme medullaire spasmodique.** Bull. Acad. De Med. (Paris) **12:909**

Source: ref ex Selye (1957)

Lathyrism France/ France lathyrism/ France/ Lathyrism.

Marie, P. (1883). **Des manifestations médullaires de l'ergotisme et du lathyrisme.** Le Progres Médical **4:64-66.**

Subcutaneous injections of Lathyrus cicera extract did not produce the characteristic symptoms of lathyrism.

Source: reprintDE

Lathyrus cicera toxicity/ Lathyrism bioassay/ Bioassay L. cicera/ Lathyrus cicera/ Bioassay/ Lathyrism symptoms/ Injections/ Lathyrism/ Lathyrism L. cicera/ Lathyrus toxicity/ Symptoms lathyrism/ Toxicity L. cicera/ Toxicity/ reprint.

Marie, P. (1883). **Lathyrisme et Beriberi.** Le Progres Médical **XI:842-845**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Reflexes/ Bouchard/ Beriberi/ Famine/ Malnutrition/ Algeria/ Lathyrism/ North Africa/ Africa North.

Proust, A. (1883). **Communication du Lathyrisme medullaire spasmodique.** Bull. Acad. De Med. (Paris) **2. Ser. Tom. 12:829-853, 853-859, 866-875**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Algeria/ Lathyrism/ North Africa/ Africa North.

Proust, A. (1883). **Discussion sur le Lathyrisme medullaire spasmodique et le Beriberi.** Bull. Acad. De Med. (Paris) **2. Ser. Tom. 12:882-912, 916**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Algeria/ Beriberi/ Binding sites/ Lathyrism/ North Africa/ Africa North.

Proust, A. (1883). **Rapport adresse a M. le Ministre du commerce sur une epidemie qui regne actuellement dans les montagnes de la Kabylie (Lathyrisme medullaire spasmodique).** Recueil De Travaux Du Comite Consult. D'Hygiene Publ. De France **XIII:184-205**

Source: ref ex Schuchardt (1885-87)

Lathyrism Algeria/ Algeria lathyrism/ Algeria/ France/ Lathyrism/ Lathyrism France/ North Africa/ Africa North.

De Renzi, E. (1884). **Il latirismo e la paralisi spinale spastica.** Giorn. Di Neuropathol. Napoli **I.:233-244**

Source: ref ex Schuchardt (1885-87)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

De Renzi, E. (1884). **Paralisi spinale spasmodico e latirismo.** Rivista Clinica D. Universita Di Napoli **V.:49-**

Source: ref ex Schuchardt (1885-87)

Lathyrism Italy/ Italy lathyrism/ Italy/ Lathyrism.

Giglio, G. (1885). **Storia clinica d'un caso di latirismo in Sicilia. Palermo. octavo (15 pp.).**

Source: ref ex Schuchardt (1885-87)

Lathyrism Italy Sicily/ Italy Sicily lathyrism/ Italy/ Italy lathyrism/ Italy Sicily/ Lathyrism/ Lathyrism Italy/ Sicily.

Schuchardt, B. (1885-1887). **Zur Geschichte und Casuistik des Lathyrismus.** Deutsches Archiv Fuer Klinische Medizin **40:312-341.**

A review of lathyrism. Several references to lathyrism in animals.

Source: reprintDE

Lathyrus magellanicus/ Lathyrus tuberosus/ Lathyrus articulatus/ Lathyrus aphaca/ Lathyrus pratensis/ Human consumption Lathyrus spp/ Lathyrus spp toxicity/ Lathyrism Lathyrus spp/ Vicia ervilia/ Vicia monantha/ Lathyrism review/ Lathyrus sativus/ Lathyrus cicera/ Lathyrus ochrus/ Lathyrus clymenum/ Human consumption/ Lathyrism/ Lathyrism animal models/ Lathyrism animals/ Lathyrism L. cicera/ Lathyrism L. clymenum/ Lathyrus pratensis toxicity/ Lathyrus spp/ Lathyrus toxicity/ Humans/ Models/ Review/ Toxicity L. cicera/ Toxicity L. sativus/ Toxicity Lathyrus spp/ Toxicity/ Vicia/ reprint.

Huber, J. C. (1886). **Historische Notizen ueber den Lathyrismus.** Friedrich's Blaetter Fuer Gerichtliche Medizin **37 (1):34-36.**

Alternative Journal title (Selye, 1957, spelling corrected according to Grmek, 1980) Friedrich's Blätter für gerichtliche Medizin Sanitätsp.

Source: ref ex Selye (1957); Grmek (1980)
Lathyrism history/ History/ Lathyrism/ Hippocrates.

Chabline and Semidoff (1892). Rev Med Russ

Source: ref ex Jiménez Díaz (1941)
Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia.

Proust, A. (1893). **Du lathyrisme medullaire et spasmodique**. Bull. Acad. De Med. (Paris):829-859.

Gives a full details of a Lathyrism epidemic in Kabylia.

Source: ref ex Stockman (1931); Moya et al 1967

Lathyrism epidemiology Kabylia Algeria/ Algeria lathyrism/ Lathyrism Algeria/ Vicia ervilia/ Lathyrism/ Algeria/ Epidemiology lathyrism/
Lathyrism epidemiology/ North Africa/ Africa North/ Vicia.

Schabalin (1893). **Lathyrism in Russia**. Med. Obzor 4

Source: ref ex Selye (1957)
Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia.

Semidalov, V. (1893). **O Lathyrizme [On lathyrism]**. Medkoe. Obozr 39:733-

Source: ref ex Tiwari (1994)
Lathyrism/ Lathyrism history/ History.

Abson (1894). **Lathyrism**. Veterinary Record:159

Source: ref ex Selye (1957) (read in abstract form only)
Lathyrism/ Lathyrism veterinary.

Kojewnikoff (1894). **Lathyrism in Russia**. Vestnik Psychiatr. [Vestrik Payole] 10:2.

Alexis Yakovlievich Kozhevnikov, Russian neurologist and psychiatrist, born 1836, Ryazan; died January 10 23, 1902, Moscow.

The name has also been spelled Kochewnikow, Koschewnikoff, Koschewnikow, Kojewnikoff.

See also his publication: Lathyrism - bolezn,obuslovennaia upotrebleniem v pyscu goroha lathyrus.Sankt Peterburg, 1894.

Source: ref ex Selye (1957) [Dwivedi]

Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia.

Slidders (1894). **Lathyrism**. Veterinary Record:50

Source: ref ex Selye (1957)
Animal poisonings Lathyrus spp/ Lathyrism animals/ Animals lathyrism/ Lathyrism/ Lathyrism veterinary/ Lathyrus spp.

Grandjean, M. (1895). **Paralysie ataxique observee chez les kabyles a la suite de l'ingestion d'une variete de gesse (Lathyrus clymenum L., appelee en Kabylie: Habech)**. Arch. Med. Pharmacol. Militaires 1:95-102

Algeria L. clymenum toxicity/ Lathyrus clymenum toxicity/ Lathyrism Algeria/ Lathyrism history/ Lathyrus clymenum/ Algeria/ History
Lathyrism/ Lathyrism L. clymenum/ Lathyrus toxicity/ North Africa/ Africa North/ Toxicity.

Mingazzini, G. and Buglioni, G. B. (1896). **Studio clinico col anatomico sul latirismo**. Rev. Sperim. Freniatr. Med. Leg 22:79-105

Source: ref ex Selye (1957); Jiménez Díaz (1941); Moya et al 1967
Lathyrism Italy/ Italy lathyrism/ Lathyrism history/ History/ Italy/ Lathyrism.

Goldzinger (1897). **Vortrag. Klin. F. Nerv. Und Geistenk. [Klin. F. Nerven Und Geisteskrankheiten] 24** (4)

Source: ref ex Jiménez Díaz (1941)
Lathyrism history/ History/ Lathyrism.

Mirto (1897). **Lathyrism**. Il Pisano 18:109-

Source: ref ex Selye (1957)
Lathyrism Italy/ Italy Lathyrism/ Italy/ Lathyrism.

Mirto (1898). **Sulla obtenzione degli elementi nervosi nel latirismo sperimentale**. Giron. Di Med. Legal 3

Source: ref ex Jiménez Díaz (1941)
Lathyrism history/ History/ Lathyrism.

Blaise, H. (1899). **L'etiologie du lathyrisme medullaire spasmodique en Algérie**. Rev D'Hygiene:603-612

Source: ref ex Selye (1957)
Lathyrism Algeria/ Algeria lathyrism/ Algeria/ Lathyrism/ Lathyrism etiology/ North Africa/ Africa North.

Buchanan, W. J. (1899). **A note on lathyrism.** Journal OfTropical Medicine **1**:261
Lathyrism India/ India lathyrism/ India/ Lathyrism.

Holzinger (1899). **Lathyrism in Russia.** Nevrol. Viestnik **7**:2
Source: ref ex Selye (1957)
Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia.

Blaise, H. (1900). **L'Étiologie du lathyrisme en Algérie.**
Source: ref ex Jiménez Díaz (1941)
Lathyrism Algeria/ Algeria lathyrism/ Algeria/ Lathyrism/ Lathyrism etiology/ North Africa/ Africa North.

Kobert, R. (1902). **Lehrbuch der Intoxikationen.** 2nd revised edn. ed., Stuttgart: Ferdinand Enke, Vol. Vol. 1 & 2. (author affiliation: Kaiserlich Russischer Staatsrat, Prof. & Dir. Inst. Pharmacol. & Physiol. Chem. University Rostock).
see Pammel (1911).
Source: reprintDE
Lathyrism history/ Lathyrus spp toxicity/ Vicia sativa/ Vicia ervilia toxicity/ History/ Lathyrism/ Lathyrus spp/ Lathyrus toxicity/ Toxicity Lathyrus spp/ Toxicity/ Vicia/ Vicia ervilia/ reprint.

Hendley (1903). **Lathyrism.** British Medical Journal **2**:707-709
Source: ref ex Selye (1957)
Lathyrism review/ Lathyrism/ Review.

Spirtoff (1903). **Lathyrism in Russia.** Obzor. Psych **5**:675-.
Spirtoff (1903) Lathyrism in Russia. Obosrenije Psych **5**:675.
Source: ref ex Selye (1957)
Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia.

Förster, O. H. (1911). **Resection of the posterior spinal nerve roots in the treatment of gastric crisis and spastic paralysis.** Proc. Roy. Soc. Med. **3**:226-254
Lathyrism treatment/ Treatment lathyrism.

Morgan, T. H. (1911). **Lathyrism.** Annals of the New York Academy of Sciences **21**:87-
Source: ref ex Selye (1957)
Lathyrism.

Pammel, L. H. (1911). **Manual of poisonous plants.** Cedar Rapids, Ia.: Torch Press.
He deals in greater detail with lathyrism, quoting a fair section from Kobert (1906) on the historical aspects and mentions that a 100 species of Lathyrus are distributed over North and South America. *L. sylvestris* is considered poisonous in its native home, the Carpathian mountains, but the cultivated type has been bred for lower levels of toxins [D.E. the seed contains Diamino butyric acid, DABA]. In the western U.S. the prairie vetchlings *L. ornatus*, *L. polymorphus*, and the marsh vetchling *L. palustris* are considered valuable forage plants, the latter forming an important part of the hay and adding materially to the feeding value. *L. venosus* and *L. ochroleucus* occurring in similar localities are much less valuable.
Source: reprintDE
Vicia/ Legume toxicity/ Review/ Vicism/ Toxicity/ Lathyrism/ Lathyrus toxicity/ America North poisonous plants/ Lathyrus ochroleucus Lathyrus venosus/ Lathyrus ornatus/ Lathyrus polymorphus/ Lathyrus palustris/ Lathyrus sylvestris/ Ruminants/ Antinutritional factors/ Forage DABA/ Cattle/ Hay/ Agriculture/ America/ Feeding/ Feed ruminants/ Feed Lathyrus ochrus/ Feed Lathyrus sylvestris/ History/ Lathyrism history/ Lathyrism review/ Lathyrus ochrus/ Lathyrus sylvestris/ North America/ Pigs/ Poisonous plants/ Ruminant feed/ Seed/ South America Toxicity *L. sylvestris*/ Toxin/ reprint.

Fumaroli and Zanelli (1914). **Anatomische experimentelle Forschungen ueber den Lathyrismus.** Archiv Fuer Psychiatrie Und Nervenkrankheiten **54** (2)
Source: ref ex Jiménez Díaz (1941)
Lathyrism anatomy/ Anatomy lathyrism/ Anatomy plant/ Lathyrism.

Stockman, R. (1917). **Lathyrism in man.** Edinburgh Medical Journal **19**:277-297
Source: reprintDE
Lathyrism/ Lathyrus sativus toxicity/ Lathyrus sativus/ Lathyrus toxicity/ Humans/ Toxicity *L. sativus*/ Toxicity/ reprint.

Turney, D. M.; Salmon, W. D., and Copeland, D. H. (1918). **Lathyrism.** Alabama Ext. Station, 54th and 55th Ann. Reports:18-
Alternative citation [different year] Lathyrism in relation to the use of caley peas (*Lathyrus hirsutus*) for livestock.

Turney DM, Copeland DH, Salmon WD. Alabama Agr Exp Sta Annu Rept, Vol. 54-55, p. 18-19, 1943 [source: <http://toxnet.nlm.nih.gov/>]
also Alabama Agr Exp Sta Annu Rept, Vol. 56-57, p. 18-19, 1944 [source: <http://toxnet.nlm.nih.gov/>].
Source: ref ex Selye (1957)
Lathyrism review/ Alabama/ Alabama/ Lathyrism/ Reports/ Review.

Mirande, M. (1921). **Sur le lathyrisme ou intoxication provoquée par les graines de Gesses.** Comp. Rend. Paris **172e**:1142-1143, 1202.

Anderson et al. : M. suggested that the toxicity of *L. sativus* was due to a protein which produces H₂S when the crushed seed was allowed to undergo fermentation. Other species with H₂S evolution during fermentation. *L. odoratus*, *Phaseolus vulgaris*, *P. sativum*, several species of *Faba* and *Vicia*, *Cicer arietinum*, *Medicago sativa*, and *Lupinus albus*.

Source: reprintDE

Sulfur/ *Vicia*/ *Lathyrus*/ β -elimination/ Toxicity/ *Lathyrus sativus*/ *Lathyrus odoratus*/ *Medicago sativa*/ *Cicer arietinum*/ Evolution Fermentation/ Lathyrism/ Lathyrus toxicity/ *Lupinus albus*/ *Medicago*/ *Phaseolus vulgaris*/ *Pisum sativum*/ Protein/ Seed/ Toxicity *L. odoratus* Toxicity *L. sativus*/ reprint.

Acton, H. W. (1922). **An investigation into the causation of lathyrism in man.** Indian Medical Gazette **57**:241-247

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ India/ Lathyrism/ Humans.

Acton, H. W. and Chopra, R. N. (1922). **An investigation into the causation of lathyrism in man.** Indian Medical Gazette **57**:241-247

Source: ref ex Roy (pers. comm.)

Lathyrism India/ India lathyrism/ India/ Lathyrism/ Humans.

Acton, H. W. and Chopra, R. N. (1922). **The production and pharmacological action of kesari amine.** Indian Medical Gazette **57**:412-415.

Jiménez Díaz, C. (1941) cites Vol or issue 11.

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ Amines *L. sativus*/ *Lathyrus sativus* amines/ Amines/ *Lathyrus sativus*/ India/ India *L. sativus*/ Khesari Lathyrism.

Vazeux (1923). **Nombreux cas d'empoisonnement par la gesse clymène (*Lathyrus clymenum*).** Rev. Vet. Milit. B. Aires (Revista De Veterinaria Militar) **75**:481

Source: ref ex Selye (1957)

Lathyrus clymenum toxicity/ Lathyrism *L. clymenum*/ *Lathyrus clymenum*/ Lathyrism/ Lathyrus toxicity/ Toxicity.

Walker, W. H. (1924). **Observations on the feeding of horses on *Lathyrus sativus*.** Agr. J. India:646-648

Source: MWP_1992

Horse diseases/ Horses/ Horse poisoning *L. sativus*/ Horses lathyrism/ Lathyrism animals/ Lathyrism horses/ Feed/ Feed *L. sativus*/ *Lathyrus sativus*/ *Lathyrus sativus* animal feeding/ *Lathyrus sativus* India.

Anderson, L. A. P.; Howard, A., and Simonsen, J. L. (1925). **Studies on Lathyrism (I).** Indian Journal of Medicine **12**:613-643.

Anderson et al. 1925 *V. sativa* var. *angustifolia*, a weed, known in Bihar as akta. *Lathyrus sphaericus* Retz., known as langra khesari, near Barail *V. hirsuta* Koch, known as misya and *L. aphaca* L., known as pipra. Evident unpalatability was noted with these weeds., daily food intake remained low, on average around the starvation level. Evolution of HCN from ordinary khesari grain (with other seeds admixed) was noted during experiments which aimed at repeating Mirande (1921) results on H₂S evolution, which could not be confirmed. Review of vicine and vicianine(p 620). Ritthausen (1870, 1873, 1876, 1881, 1884, 1889) showed in a series of important papers that the seeds of *Vicia sativa* contained a nitrogenous glucoside to which he gave the name vicine and which was at first considered to be an alkaloid. In a number of investigations by Schulze & Trier (1910), Schulze (1911), Winterstein (1919), Johnson & Johns (1914), Fischer (1914), and more especially Levene (1914) and Levene & Senior (1916) the structure of divicine was studied. Immature seeds seem to contain the highest amount of vicine (Anderson et al. 1925). Experiments with ducks. Animals on germinated grain did not thrive as well as the others. All animals fed diets containing any quantity of *V. sativa* died within 6-25 days. A negative effect on feed intake was also noted for the *V. sativa* diets, but starvation was ruled out by a controlled starvation experiment. 50% *V. sativa* L. var. *angustifolia* induced poisoning in ducks and monkeys. Causal agent apparently not ascribed to any particular toxin. Symptoms: Ducks exhibited ataxy, walking in circles, convulsions, paresis, a kind of writhing contortion of the whole

body and death . Observation carried out over a period of 13-125 days. Post mortem: in almost every case examined cerebral congestion was a very-striking post mortem feature. Nothing remarkable about the abdominal or thoracic organs, except for an excess of pericardial fluid. 'On removing the skin of the head there was oedema and indication of haemorrhage over the surface of the skull. The brain superficially was intensely congested all over, pink in colour, and covered with dilated vessels. It was soft and difficult to remove. There was much hyperaemia about the cerebellum, medulla and upper cord, and blood welled up as soon as this part was laid open. Monkeys were less active, crouched in cages unable to sit up and constantly grinding their teeth. They exhibited fibrillary twitchings of the muscles of arms, legs and flanks, as well as violent convulsions of the whole body lasting 5-10 minutes. They also yawned frequently, were hyperexcitable and showed symptoms of paralysis. Quite a bit of detail about the symptoms of monkeys feeding on 15, 30 and 50% V. sativa diets, some of it in dhal form. These symptoms are different from those typical of lathyrism.

Source: reprintDE

Lathyrism/ Lathyrus sativus toxicity/ Oedema/ Haemorrhage/ Brain haemorrhage/ Vicia sativa/ Vicia sativa toxicity/ Vicia sativa ssp nigra toxicity/ Bioassay monkeys/ Bioassay ducks/ Ducks/ Primates/ Symptoms V sativa toxicity/ Neurology/ Lathyrus sativus/ Bioassay/ Agriculture Bihar/ Bioassay L. sativus/ Lathyrus sativus bioassay/ Glycosides/ Glucosides/ Lathyrism symptoms/ Blood/ Brain/ Cerebellum/ Colour Convulsions/ Cyanides/ Dhal/ Diet/ Dietary intake/ Evolution/ Feed/ Feeding/ Feed intake/ Feed Vicia sativa/ Feed Lathyrus sativus/ Food Glucose/ HCN/ Immaturity/ India/ India Dietary/ Dietary/ India L. sativus/ India lathyrism/ India weed/ Intake/ Khesari/ Lathyrism animals Lathyrism Bioassay/ Lathyrism India/ Lathyrism review/ Lathyrus aphaca/ Lathyrus aphaca weed/ Lathyrus toxicity/ Medulla/ Muscles Paralysis/ Poultry/ Review/ Seed/ Skin/ Starvation/ Symptoms lathyrism/ Toxicity L. sativus/ Toxicity L. sativus poultry/ Toxicity/ Toxin/ Vicia Vicia hirsuta/ Vicine/ Weed/ Weed L. aphaca/ Weed V. sativa/ reprint.

Clough, G. W. (1925). **Lathyrism**. Veterinary Record **39**:839-840

Source: reprintDE

Lathyrus/ Toxin/ Lathyrism/ Lathyrism veterinary/ reprint.

Filiminoff, I. N. (1926). **Zur pathologisch-anatomischen Charakteristik des Lathyrismus**. Zeitschrift Fuer Die Gesamte Neurologie Und Psychiatrie **105** (1-2):76-92

Source: ref ex Selye (1957)

Lathyrism Russia/ Russia lathyrism/ Lathyrism/ Russia/ Pathology/ Anatomy.

Maleval, E. (1926). **Contribution a l'etude du lathyrisme**. [Contribution to the study of lathyrism].

Montpellier: 78 p.

Source: NAL CALL NO: 41.2 M29 ex. USDA NAL catalogue/telnet

Lathyrism history/ History lathyrism/ History/ Lathyrism/ USDA.

McCarrison, R. (1926). **A note on lathyrism in the Gilgit Agency**. Indian Journal of Medical Research **14** (2):379-381

Source: ref ex Steyn (1933)

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Buchanan, A. (1927). **Report on Lathyrism in the Central Provinces: Nappur 1896-1902**. Raipur, India: Government Press.

Source: ref ex Dwivedi (1989)

Lathyrism India/ India lathyrism/ Lathyrus sativus/ India/ India L. sativus/ Lathyrism/ Reports.

MacKenzie, L. H. L. (1927). **Lathyrism in the Gilgit agency**. Indian Medical Gazette **62**:201-202

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Maleval, E. (1927). **Contribution à l'étude du lathyrisme chez le cheval et le mulet**. Revue Vétérinaire Et Journal De Médecine Vétérinaire Et De Zootechnie [Réunis] **79**:5-89.

This is a detailed paper which describes the symptoms and etiology of lathyrism in horses and mules. It also reviews the contradictory theories regarding lathyrism. The symptoms in equines differ from those observed in humans. Cornage = roaring ie. Constriction of the larynx (dyspnoea) in severe cases followed by asphyxiation are the characteristic feature. Mules are more susceptible than horses. The onset of symptoms can be delayed by two to three months following the cessation of feeding on Lathyrus sativus.

Gaget, Léger, Marcenac, Tasset observed walking difficulties without accompanying hoaring

Verrier reported walking difficulties accompanied with hoaring

Delafond, Barthélemy, Dard père, Maleval observed roaring without accompanying walking difficulties.

Citations are not given in this paper.

Source: reprintDE_2001

Lathyrism/ Lathyrism horses/ Horses lathyrism/ Lathyrism mules/ Mules lathyrism.

Megaw, J. W. D. and Gupta, J. C. (1927). **The geographical distribution of some of the diseases of India.** Indian Medical Gazette **62 (or 84):**299-9 (or 468-472)

Source: ref ex Selye (1957) (or Dwivedi)

Lathyrism India/ India lathyrism/ Lathyrism epidemiology/ Distribution plants/ Epidemiology lathyrism/ Geography/ India/ Lathyrism.

Young, T. C. M. (1927). **A field survey [study] of lathyrism.** Indian Journal of Medical Research **15:**453-479.

Clear analysis of the neurological symptoms of Lathyrism.

Lathyrism etiology/ Lathyrism India/ India lathyrism/ Lathyrism symptoms/ India/ Lathyrism/ Surveys/ Symptoms lathyrism.

McCarrison, R. (1928). **Studies on lathyrism II.** Indian Journal of Medical Research **15 (2):**797-800

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Stockman, R. (1929). **Lathyrism.** Journal of Pharmacology and Experimental Therapeutics **37:**43-53

Source: reprintDE

Lathyrism/ Lathyrus sativus toxicity/ Lathyrus sativus/ Lathyrus toxicity/ Toxicity L. sativus/ Toxicity/ reprint.

Petri, E. (1930). **Pathologische Anatomie und Histologie der Vergiftungen.** Berlin: Julius Springer (F. Henke, O. Lubarsch, eds.).

Source: ref ex Steyn (1933)

Lathyrus toxicity symptoms/ Vicia toxicity/ Lathyrism histology/ Lathyrism anatomy/ Lathyrism symptoms/ Anatomy plant/ Histology
Histology lathyrism/ Lathyrism/ Lathyrus toxicity/ Symptoms lathyrism/ Toxicity/ Vicia.

Stott, H. (1930). **On the distribution of lathyrism in the United provinces and on its cause with a description of a 40 month feeding experiment in tonga ponies with botanically pure Lathyrus sativus and Vicia sativa.** Indian Journal of Medical Research **18:**51-55.

Stott, H. (1930) On the distribution of lathyrism in United Provinces and on its cause with a description of 4 3/4 months feeding experiment on ponies with botanically pur Lathyrus sativus and of Vicia sativa. Indian J Med Res 18:51-55.

Source: ref ex Selye (1957)

India lathyrism/ Lathyrism India/ Vicia sativa toxicity/ Lathyrus sativus toxicity/ Bioassays L. sativus/ Bioassays Vicia sativa/ Lathyrus sativus Feeding/ India/ India L. sativus/ Lathyrism/ Lathyrism Bioassay/ Lathyrus toxicity/ Toxicity L. sativus/ Toxicity/ Vicia/ Vicia sativa.

Stockman, R. (1931). **The poisonous principle of Lathyrus and some other leguminous seeds.** Journal of Hygiene **31:**550-562.

Amongst the grain legumes grown since antiquity for food and feed, bitter vetch (*Vicia ervilia*) and the vetchling (*Lathyrus sativus*, *L. cicera*, *L. clymenum*) are suspicious for their potential toxicity. *Lathyrus* has been noted for its toxicity to farm animals and humans especially since the 17th century. Bitter vetch is of limited importance as a cattle food. *Lathyrus* is extensively grown in France and Southern Europe, mainly as a fodder and to some extent also for human consumption. It is eaten by peasants as a pulse in cooked form and also, mixed with wheat flour, as bread. Therefore in times of scarcity and when the prices for cereals were high, its excessive use caused local outbreaks of poisoning. The grain (whole, ground, cooked in various ways) is the staple diet of large sections of the poorer classes in India and Kabylia (Algeria) Thus, during famines as a result of its increased consumption, pandemics have arisen. In India large sections of the agricultural population subsist on diets containing *Lathyrus* (khesari, teora, matra). In North-West and Central India, 6% of the population are affected by paralysis of the lower limbs, in the worst affected villages 10%+ of the male adults are affected. Cantani (Naples, 1873) named this disease, which was long well known to physicians in affected areas, Lathyrism. In Some Indian jails 4-6 ounces/person/day are fed without ill consequences (Buchanan). When used as the sole diet paralysis occurs within 4-8 weeks (Grandjean, etc.). The grain varies in toxicity, and toxicity seems to depend on the amount eaten and to some extent the individual's susceptibility. Men are more affected than women (10-12 male:1 female), boys more than girls. Slight cases manifest themselves as mild motor paralysis and spasticity in the lower limbs, which can disappear again. In more severe cases paralysis appears suddenly and can affect the bladder, rectum, genitals, with pains around the waist, lightning pains, loss of sensation, numbness, cramps, prickling. All symptoms clear up again, except for the paralysis which is permanent and can vary in its degree of severity. Chevallier (France, 1841) mentions somnolence (D.E.: inclination to sleep, sleepiness, drowsiness cf. with *V. sativa* and pigs). Brunelli (around Rome, ca.1880) reported 11 cases, a kind of transient intoxication was noted after each meal in some individuals. Desparanches (extensive epidemic around Blois, ca. 1829) noted that convulsive movements of the limbs were the earliest symptoms. McCombie Young (Ind. J. Med. Res., 1927,

15) gave a very detailed description of the symptoms. Proust (1883) Bull. Acad. Méd. 12, 829 gives full details of an epidemic in Kabylia. No post-mortem information was available (1931). With regard to the utilisation of the whole plant and its grain as animal fodder, 20% of the grain in diets is well known to be innocuous, except for horses which are particularly susceptible. On 100% grain diets, herbivores and pigs thrive and remain well, although they are apt to develop a weakness of their hindlegs (D.E. cf. Loudon, 1880). Pigs grazing on Lathyrus have not infrequently died of acute poisoning, and sheep and cattle have also died acutely. Ducks, geese and peacocks are readily poisoned by the grain, but pigeons, hens and partridges do well on them although perhaps they are not quite immune. Experiments with monkeys and frogs on various legumes, including *Lens culinaris*, *Glycine max*, *L. sativus*, *L. cicera*, *V. ervilia* are described and it is curious that nervous symptoms were observed in a monkey (3.5 kg bodyweight) feeding on a diet consisting of cooked *Lens culinaris* and orange juice (120g/day) (some milk and fruit were given in addition); it ate well, gained weight and died after 52 days after showing nervous symptoms. This sample of lentils seemed to have been more poisonous than *L. sativus* and degenerative changes in the brain and spinal cord were similar to those observed with Lathyrism. The Dukes of Württemberg tried to ban Lathyrus from their domains. In India and Algeria similar attempts were made and proved unpopular and ineffective. Based on the assumption that Lathyrus is probably not more toxic than other grain legumes, Stockman suggests that a more varied and better balanced diet is the true preventive. Failing this, soaking the decorticated peas or the meal overnight in twice their weight of soft cold water and draining off the water with gentle pressure deprives them of a least one-quarter of the toxic substance. The cold water removes only very little protein and no starch. Undecorticated peas part with a mere fraction of the principle to cold water.

Source: reprintDE

Vicia ervilia toxicity/ Vicism/ Lathyrus toxicity/ Grain legumes/ *Lens culinaris* toxicity/ Lathyrism history/ Lathyrism review/ Ruminants Neurology/ Forage/ Grazing/ Lathyrus sativus/ Lathyrus cicera/ Lathyrus clymenum/ Cattle/ Agriculture/ Lathyrism symptoms/ Algeria/ Bovine feed/ Brain/ Bread/ Cattle feed/ Cereals/ Cold/ Diet/ Ducks/ Europe/ Feed/ Feeding/ Feed ruminants/ Feed Lathyrus sativus/ Feed Lathyrus cicera/ Feed Lathyrus ochrus/ Female/ Flour/ Fodder/ Food/ France/ Geese/ *Glycine max*/ Pulses/ Grain legumes India/ Herbivory/ History Horse diseases/ Horses/ Horses lathyrism/ Human consumption/ Immunity/ India/ India Dietary/ Dietary/ India *L. sativus*/ India *L. sativus* consumption/ India lathyrism/ Khesari/ Lathyrism/ Lathyrism Algeria/ Lathyrism animals/ Lathyrism horses/ Lathyrism India/ Lathyrism *L. cicera*/ Lathyrism *L. clymenum*/ Lathyrus ochrus/ *Lens culinaris*/ Males/ Humans/ Milk/ Mixtures/ North Africa/ Africa North/ Paralysis/ Pigs Pigeons/ Population/ Poultry/ Primates/ Protein/ Reptiles/ Review/ Ruminant feed/ Ruminants *L. sativus*/ Seed/ Sensation/ Sheep/ Sheep feed Soaking/ Spasticity/ Spinal cord/ Susceptibility/ Symptoms lathyrism/ Toxicity *L. cicera*/ Toxicity *L. sativus*/ Toxicity *L. sativus* poultry Toxicity/ *Triticum aestivum*/ Utilisation/ Vicia/ Vicia ervilia/ Vicia sativa/ Water/ Whole plant/ reprint.

Trabaud; Murched-Khater; Chaty, and Mouharram (1932). **Le Lathyrisme en Syrie.** Bull. Acad. De Med. (Paris) **107**:260-

Source: ref ex Selye (1957)

Lathyrism Syria/ Lathyrism/ Syria/ Syria lathyrism.

Tranaid (1932). [**Lathyrus in Syria**]. Bull. Acad. De Med. (Paris) **107**:260-263

Source: ref ex Vet. Bull. 3, p 382 (1933) M. W. Perry

Syria/ Syria lathyrism/ Syria *L. sativus*/ Lathyrism Syria/ Lathyrus sativus Syria/ Feed/ Feed *L. sativus*/ Feed Lathyrus spp/ Toxicity/ Toxicity *L. sativus*.

Turegano, F. F. (1932). **La enfermedad de las 'guijas'.** [**The disease produced by Lathyrus**]. Agricultura, Madrid **4**:337-338.

Poisoning caused by the seeds of Lathyrus species is discussed from the veterinary point of view.

Source: HA 2: p. 209

Lathyrism Spain/ Spain lathyrism/ Lathyrus sativus Spain/ Lathyrus sativus/ Lathyrism/ Lathyrism veterinary/ Seed/ Spain/ Spain *L. sativus*.

Geiger, B. J.; Steenbock, H., and Parsons, H. T. (1933). **Lathyrism in the rat.** Journal of Nutrition **6**:427-442

Source: reprintDE

Rats/ Lathyrism/ Rodents/ Lathyrus odoratus/ Lathyrism nutrition/ Lathyrism rats/ Nutrition/ reprint.

Loisel, G. (1933). **Le lathyrisme syrien.** La Presse Medicale (7):149-150

Source: ref ex Zalkind 1937

Lathyrism Syria/ Syria lathyrism/ Lathyrism/ Syria.

Steyn, D. G. (1933). **Lathyrus sativus L. (chickling vetch, khesari, Indian pea) as a stockfood.**

Onderstepoort Jour. Vet. Sci. and Anim. Indust **1**:163-171.

Lathyrus sativus forage feeding trials with cattle, sheep, horses and rabbits. Clear cases of toxicity were observed with the horses (n=2). week two: loss of condition, week three: Diarrhoea, dirty brown conjunctiva, week 4: in one horse progressive paralysis. Post Mortem: Abrasions on all prominent parts of the carcass; intense general icterus; hyperaemia of the lungs; subepicardial haemorrhages; pigmentation and degenerative changes in the liver; blood not coagulated and tarry in consistence; gastrophilus larvae in the stomach;

impaction of caecum, which contained a large amount of grit; chronic enteritis. Histology: no specific changes in the organs. Liver and kidney showed hyperaemia. Death occurred in one horse after 35 days and ingestion of 114 kg of the forage (fresh weight). The other horse was fed for 55 days consuming 212 kg fresh forage developing similar symptoms. Lack of further *L. sativus* feed prompted discontinuation of the experiment and the animal recovered.

Source: reprintDE

Animal feeding/ Toxicity/ South Africa/ Rodents/ Ruminants/ Forage/ Lathyrus sativus/ Cattle/ Horses/ Agriculture/ Lathyrism symptoms Africa/ Blood/ Bovine feed/ Brain/ Cattle feed/ Feed/ Feeding/ Feed ruminants/ Feed Lathyrus sativus/ Feed Lathyrus ochrus/ Histology Histology lathyrism/ Horse diseases/ Horses lathyrism/ India/ India *L. sativus*/ India lathyrism/ Khesari/ Kidneys/ Lathyrism/ Lathyrism animals Lathyrism histology/ Lathyrism horses/ Lathyrism India/ Lathyrus ochrus/ Lathyrus toxicity/ Liver/ Paralysis/ Pigmentation/ Rabbits/ Ruminant feed/ Ruminants *L. sativus*/ Sheep/ Sheep feed/ Symptoms lathyrism/ Toxicity *L. sativus*/ reprint.

McCarrison, R. and Krishnan, B. H. (1934). **Lathyrism in the rat.** Indian Journal of Medical Research **22** (1):65-

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ Rodents/ India/ Lathyrism/ Lathyrism rats/ Rats.

Stockman, R. (1934). **The chemistry and pharmacology of Lathyrus peas.** Journal of Hygiene **34** (2):145-153

Source: HA 4: p. 236; reprintDE

Lathyrism/ Lathyrus sativus toxicity/ Chemistry/ Lathyrus sativus/ Lathyrus toxicity/ Toxicity *L. sativus*/ Toxicity/ reprint.

Chopra, R. N. (1935). **Lathyrism.** The British encyclopedia of Medical Practice, London, Vol. 7, p. 651.

Source: ref ex Selye (1957)

Lathyrism.

Zalkind, F. L. (1936). **[On the poisonous properties of Lathyrus sativus L., and of some other legumes].** Trudy Po Prikladnoi Botanike, Genetike i Selektivii Ser. A **18**:51-63.

A critical review of the literature dealing with the experimental study of etiology of the poison induced by forms of *Lathyrus* and also by *Vicia*, *Cajanus*, *Pisum*, *Ervum* and other legumes.

Source: HA 6: p 217; reprintDE

Lathyrus toxicity review/ Lathyrism review/ Lathyrus sativus/ Cajanus/ Lathyrism/ Lathyrism etiology/ Lathyrus toxicity/ Pisum/ Poison Review/ Toxicity *L. sativus*/ Toxicity/ *Vicia*/ reprint.

Zagami, V. (1938). **A proposito del cosidetto latirismo.** Problem. Alimen **2**:29

Source: ref ex Jiménez Díaz (1941)

Lathyrism history/ History/ Lathyrism.

Hippocrates Epidemiarum (ca. 460-ca. 377 B.C.) (1939). **The genuine works of Hippocrates/ translated from the Greek by Francis Adams.** Baltimore: Williams & Wilkins.

Citation provided by Dr. Ann Butler (pers. com.): Hippocrates Epidemiarum [460 - 377 B. C.] Ed.3, vol. 5, book II, sect IV p. 126, Littree, Paris.

Lathyrism history/ Lathyrism antiquity/ History lathyrism/ History/ Lathyrism.

Shah, S. R. A. (1939). **A note on some cases of lathyrism in a Punjab village.** Indian Medical Gazette **74**:385-388

Source: ref ex Selye (1957)

Pakistan/ Lathyrism India/ Lathyrism Pakistan/ India/ India Punjab/ India lathyrism/ Lathyrism.

Steyn, D. G. (1939). **Poisonous stock feeds.** Fmg. S. Afr **14**:243-245.

Symptoms of poisoning resulting from feeding species of the following plants are noted: *Lathyrus*, *Vicia*, *Glycine*, *Melilotus*, *Phaseolus*, *Medicago*, *Acacia* etc.

Source: HA 9:1207

Toxicity legumes/ Legumes toxicity/ Lathyrus spp toxicity/ Lathyrism symptoms/ Acacia/ Feeding/ Glycine/ Lathyrism/ Lathyrus spp/ Lathyrus toxicity/ Medicago/ Melilotus/ Phaseolus/ Symptoms lathyrism/ Toxicity Lathyrus spp/ Toxicity/ *Vicia*.

Minchin, R. L. H. (1940). **Primary lateral sclerosis of South India. Lathyrism without Lathyrus.** British Medical Journal **1**:253-255

Source: ref ex Selye (1957), reprintDE

Lathyrism not *L. sativus*/ Lathyrus sativus/ India/ India *L. sativus*/ India lathyrism/ Lathyrism/ Lathyrism India/ reprint.

Semjonov (1940). **Las riquezas de la tierra.** E, Labor.

Source: ref ex Jiménez Díaz (1941)

Lathyrism history/ History/ Lathyrism.

Tel'tsov, A. I. (1940). **O gisto-patologicheskikh izemeniyakh v vozvratnykh i bluzhdayushchikh nervakh i myshtsakh gortani pri latirizme loshadei.** {Lesions in the recurrent and vagus nerve at the larynx in **Lathyrus sativus** poisoning in horses}. Svyet. Vet 11/12:83-86.

T. studied the morphological changes of the vagus and recurrent nerves as well as alterations in the muscles of the larynx due to poisoning by *Lathyrus sativus*. Several photomicrographs illustrate the histological changes occurring in the affected tissues. The nerve fibres of the vagal nervous system undergo degenerative changes such as vacuolation, etc., particularly in the peripheral regions of the nerves. These changes, which develop quite irregularly, were specially marked in the preterminal sections of the left recurrent nerve. In the liver and spleen, a characteristic and profound inflammation of the tissues was observed. The history of the disease in a few horses is given in considerable detail. The poisonous elements in *L. sativus* appear to be produced by the plant in connection with a special type of soil, cultivation, and climatic conditions [E. R.P.].

Source: Veterinary Bulletin 14 (1944) p. 136

Lathyrism Russia/ Russia lathyrism/ Horses lathyrism symptoms/ Lathyrism horses/ Lathyrism histology/ Histology lathyrism/ Horses lathyrism case studies/ Case studies lathyrism/ Environmental variation toxicity/ Toxicity environmental effects/ Vagus nerve/ Larynx/ Spleen Inflammation/ Soil type/ Climate/ Cultivation/ Neurology/ Soil/ Lathyrus sativus/ Agriculture/ Lathyrism symptoms/ Environmental effects Environment/ Fibre/ Histology/ History/ Horse diseases/ Horses/ Horses lathyrism/ Lathyrism/ Lathyrism history/ Lathyrism veterinary Lathyrus toxicity/ Liver/ Muscles/ Nerves/ Nervous system/ Peripheral/ Russia/ Symptoms lathyrism/ Toxicity *L. sativus*/ Toxicity.

Beguiristain, J. (1941). **Sobre dos casos de latirismo.** Revista Clinica Espanola 2 (6):560-562

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Gonzalez Calvo, V. (1941). **Aportacion clinica al latirismo.** Revista Clinica Espanola 2 (6):558-560

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C. (1941). **Investigaciones sobre el latirismo. I. Introducion. Factores etiologicos.** Revista Clinica Espanola 3:303-309

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C. (1941). **Latirismo y alimentacion (Editorial).** Revista Clinica Espanola 2 (6):580-582.

Historical review of lathyrism. 22 ref.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism review/ History/ Lathyrism/ Lathyrism history/ Review/ Spain/ reprint.

Ley, E. and Oliveras de la Riva, C. (1941). **Primera comunicacion sobre una epidemia de latirismo.** Revista Clinica Espanola 2 (6):533-541

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Aya Goni, A. (1942). **Dos paraplejas lateridicas.** Revista Clinica Espanola 6(3):194-195

Lathyrism/ Spain/ Spain lathyrism/ Lathyrism Spain.

De Miquel, J. M. (1942). **Latirismo en Albacete.** Revista Clinica Espanola 7 (4):254-260

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C.; Roda, E.; Ortiz de Landazuri, E.; Marina, C., and Lorente, L. (1942). **Investigaciones sobre el latirismo. II. El cuadro clinico.** Revista Clinica Espanola 5:168-177

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C. and Vivanco, F. (1942). **Estudios sobre el latirismo. III. Intentos de reproducir en los animales el latirismo por una dieta de harina de almortas (*Lathyrus sativus*).** Revista Clinica Espanola 5:234-241

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrus sativus animal feeding rats/ Cicer arietinum/ Rodents/ Lathyrus sativus/ Animal feeding/ Feeding Lathyrism/ Lathyrism animals/ Lathyrism rats/ Rats/ Spain/ Spain *L. sativus*/ reprint.

Jiménez Díaz, C. and Vivanco, F. (1942). **Estudios sobre el latirismo. IV. Investigaciones acerca del valor biologico de la almorta (*Lathyrus sativus*).** Revista Clinica Espanola 5:310-326

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrus sativus biological value rats/ Rats/ Food value L. sativus/ Malnutrition L. sativus/ Rodents/ Famine Malnutrition/ Nutritional value/ Lathyrus sativus/ Food value/ Food/ Lathyrism/ Lathyrism rats/ Spain/ Spain L. sativus/ reprint.

Arigo Jiménez, J. (1943). **Un caso esporádico de latirismo.** Revista Clinica Espanola **8** (5):342-344

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Gonzalez Calvo, V. and Lopez de Letona, A. (1943). **Aspecto clinico de un nuevo foco de latirismo en Castilla.** Revista Clinica Espanola **9** (6):407-411

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C.; Ortiz de Landazuri, E., and Roda, E. (1943). **Estudios sobre latirismo. VI. Sínteso de datos clínicos y experimentales [para el conocimiento] de la patogenia del latirismo.** Revista Clinica Espanola **8**:154-167.

This synthesis paper contains maps depicting the areas of Lathyrus sativus cultivation in Spain and areas affected by lathyrism.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrus sativus cultivation Spain/ Cultivation L. sativus Spain/ Lathyrus sativus/ Cultivation/ Lathyrism Maps/ Spain/ Spain L. sativus/ reprint.

Jiménez Díaz, C. and Romeo, J. M. (1943). **Estudios sobre el latirismo. VII. Influencia del factor hepatico sobre la absorcion de la albumina de la almorta.** Revista Clinica Espanola **8**:244-247

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Jiménez Díaz, C.; Vivanco, F., and Mendoza, H. C. (1943). **Estudios sobre el latirismo. V. Naturaleza de un cuadro neurologico que aparece en las ratas alimentados con garbanzos (cicerismo).** Revista Clinica Espanola **8**:89-94

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism bioassay rats/ Rats/ Lathyrism Cicer arietinum (Cicerism)/ Rodents/ Bioassay/ Animal feeding Cicer arietinum/ Feeding/ Lathyrism/ Lathyrism animals/ Lathyrism Bioassay/ Lathyrism rats/ Spain/ reprint.

Simarro Puig, J. and Roca de Vinals, R. (1943). **Aportacion a la anatomia patologica del latirismo (Una observacion anatomoclinica).** Revista Clinica Espanola **8** (2):107-112

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism anatomy/ Anatomy plant/ Lathyrism/ Spain/ reprint.

Torres Canamares, F. and Vergara Olivas, A. (1943). **Nota sobre los latiricos de la provincia Cuenca.** Revista Clinica Espanola **8** (1):47-50

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Venkatachalam, V. (1943). **Common cattle poisoning.** Indian Farming **4**:571-575.

The toxic effects of the following plants are recorded: etc., kesari (Lathyrus sativus) which produced lathyrism, etc.

Source: HA 14:1589

Toxicity L. sativus/ Lathyrus sativus toxicity Ruminants/ Lathyrism/ Lathyrus sativus/ Cattle/ Agriculture/ India/ India L. sativus/ India lathyrism/ Khesari/ Lathyrism India/ Lathyrus toxicity/ Ruminants/ Ruminants L. sativus/ Toxicity L. sativus/ Toxicity.

Aldama Truchuelo, J. M. and Mateo Real, M. (1944). **Los factores muscular y constucional en le latirismo. Catorce casos de hombres en los que falta en absoluto el vello en torax y axilas.** Revista Clinica Espanola **13** (5):333-338

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Muscles/ Spain/ reprint.

Arigo Jiménez, J. (1944). **Los problemas clinico del latirismo.** Revista Clinica Espanola **14** (5):349.

Abstract only.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Fernandez Noguera, J. and Mondejar, A. (1944). **Un caso de latirismo incipiente curado?** Medicina **no volume given**:625-628

Source: Moya et al 1967.

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Treatment lathyrism/ Lathyrism treatment.

Morcillo Hervas, C. (1944). **Latirismo en Jaén.** Revista Clinica Espanola **12** (6):423-425

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

Ortiz de Landazuri, E. (1944). **Estudios sobre el latirismo. VIII. Factores desencadentes y prorectores del latirismo.** Revista Clinica Espanola **XIV** (2):76-82.

In the presence of a protein poor diet (2000 kilo calories/day), 70 g Lathyrus sativus do not produce lathyrism. Up to 300 g of L. sativus can be consumed/day in the presence of protecting factors derived from better quality food (meat, cheese, milk) without provoking lathyrism. A higher dose of L. sativus leads to lathyrism even in the presence of protecting factors.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Malnutrition lathyrism/ Famine/ Malnutrition/ Lathyrus sativus/ Diet/ Food/ Lathyrism/ Meat/ Milk/ Protein Quality/ Spain/ Spain L. sativus/ reprint.

Ranjan, M. P. (1944). **Lathyrism in India.** Antiseptic **41**:652

Source: ref ex Selye (1957)

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Uruñuela, A. (1944). **El latirismo en Vizcaya.** Revista Clinica Espanola **14** (2):82-87.

87 cases of lathyrism in the province Vizcaya are reported and described in detail. The author believes that individuals who have eaten L. sativus for all their lives have become accustomed to some extent to the toxins in this diet and that fatigue may have become a dispositional factor. A sanitary classification of L. sativus types would be required as a basis for prophylaxis.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism predisposing factors/ Antinutritional factors/ Lathyrus sativus/ Diet/ Lathyrism/ Spain/ Spain L. sativus/ Toxin/ reprint.

Zubizarreta Aramburu, N. (1944). **Latirismo en Guipuzcoa.** Revista Clinica Espanola **15** (4):289-291

Source: reprintDE

Spain lathyrism/ Lathyrism Spain/ Lathyrism/ Spain/ reprint.

Shourie, K. L. (1945). **An outbreak of lathyrism in Central India.** Indian Journal of Medical Research **33**:239-247

Source: ref ex Selye (1957), reprintDE

Lathyrism India/ India lathyrism/ India/ Lathyrism/ reprint.

Aldama Truchuelo, J. M. and Mateo Real, M. (1946). **Un dato de interés en al patogenia del latirismo.** Anales Casa Salud Valdecilla **9**(3):179-181

Source: Moya et al 1967.

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain.

Jacoby, H. (1946). **Curative treatment of lathyrism, a disease of the nervous system.** Indian Medical Gazette **81**:246-247

Source: ref ex Selye (1957)

Lathyrism treatment/ India/ India lathyrism/ Lathyrism/ Lathyrism India/ Lathyrism treatment/ Nervous system/ Neurology.

Rudra, M. N. and Bhattacharya (1946). **Serum phosphatase in lathyrism.** The Lancet **1**:688

Source: ref ex Selye (1957)

Lathyrism serum biochemistry/ Enzymes serum phosphatase lathyrism/ Enzymes/ Lathyrism/ Lathyrism Biochemistry/ Lathyrism serum.

Ferro-Luzzi, G. (1947). **Malattia da 'Sebere' e lathyrismo in Eritrea.** Bulletino Della Societa Italiana Di Medicina e Igiene Tropicale **7**:483-493

Lathyrism Ethiopia/ Ethiopia lathyrism/ Ethiopia/ Lathyrism.

Jacoby, H. (1947). **Cause, symptoms and treatment of lathyrism. A specific nutritional neuropathy.** Indian Medical Gazette **82**:53-58

Source: ref ex Selye (1957)

Lathyrism treatment/ Lathyrism symptoms/ India/ India lathyrism/ Lathyrism/ Lathyrism India/ Lathyrism treatment/ Symptoms lathyrism.

Kessler, A. (1947). **Lathyrismus.** Monatsschrift Fuer Psychiatrie Und Neurologie **113**:345-376.

This paper describes the epidemic of lathyrism which affected the inmates of a German concentration camp in the Ukraine during WW 2. By taking Lathyrus sativus in a quantity of over 300 g/head/day, in the majority of

men a syndrome of signs arise (Lathyrism). Decrease of resistance through undernourishment (malnutrition), exhausting work and cold, as well as chronic disease (tuberculosis, diabetes) favour the onset of the disease and influence its course. The first symptoms of lathyrism are spasms in all muscular regions, and frequent imperative urinary desire. After about three months' ingestion, in a great deal of the patients, spastic paraparesis of the lower extremities appears that may progress to spastic paraplegia. In about 10%, seldom in the early stage, more frequently as late as 4-6 months after the beginning of Lathyrus consumption, vasomotor disturbances of circulation in the legs take place, giving rise to all degrees of anaemisation, from pallor with paroxysmal pains, local necroses up to ascending, symmetrical gangrene. The present observations have come out off a concentration camp on the Ukraine territory, occupied by German-Romanian troops. Of the 1350-1400 campmates, 60%, over 800, fell ill with lathyrism to varying degrees. The signs were reversible in light and medium- severe cases, capable of improving in severe ones. In 30 cases severe cases crippling by stabilised disorder of gait endured. Some patients retained scars after mutilation of deep necroses, and deformations through loss of gangrenous toes. 4 patients died, three of them of ascending symmetrical gangrene.(D.E. cf. Schuchardt's review of lathyrism, describing gangrene in some cases).

Source: reprintDE

Neuro-lathyrism/ Ukraine lathyrism/ Lathyrism Ukraine/ Forced labor camp/ Lathyrism clinical symptoms/ Lathyrism gangrene/ Spastic paraparesis/ Spastic paraplegia/ Lathyrism predisposing factors/ Neurology/ Famine/ Malnutrition/ Lathyrus sativus/ Lathyrism symptoms Syndrome/ cAMP/ Chronic disease/ Cold/ Diabetes/ Gait/ Gangrene lathyrism/ Germany/ Lathyrism/ Lathyrism review/ Humans/ Muscles Paraplegia/ Resistance/ Review/ Spasm/ Spasticity/ Symptoms lathyrism/ Ukraine/ reprint.

Lewis, H. B.; Fajans, R. S.; Esterer, M. B.; Shen, C.-W., and Oliphant, M. (1948). **The nutritive value of some legumes. Lathyrism in the rat. The sweet pea (Lathyrus odoratus), Lathyrus sativus, Lathyrus cicera and some other species of Lathyrus.** Journal of Nutrition **36**:537-559

Source: reprintDE

Vitamin C/ Lathyrus aphaca/ Lathyrus hirsutus/ Lathyrus sphaericus/ Lathyrus sylvestris/ Rodents/ Toxicity/ Nutritional value/ Lathyrus sativus/ Lathyrus cicera/ Lathyrus clymenum/ Lathyrus tingitanus/ Lathyrus odoratus/ Ascorbic acid/ Lathyrism/ Lathyrism L. cicera/ Lathyrism L. clymenum/ Lathyrism nutrition/ Lathyrism rats/ Lathyrism vitamin C/ Lathyrus sylvestris/ Lathyrus toxicity/ Nutrition/ Rats/ Toxicity L. cicera/ Toxicity L. hirsutus/ Toxicity L. odoratus/ Toxicity L. sativus/ Toxicity L. sylvestris/ Vitamins/ reprint.

Lal, S. B. (1949). **Lathyrism in Bihar.** Indian Medical Gazette **84**:468-472

Lathyrism India/ India lathyrism/ Bihar/ Bioassay L. sativus/ Lathyrus sativus bioassay/ India/ India L. sativus/ Lathyrism/ Lathyrism Bioassay Lathyrus sativus.

Lewis, H. B. and Schulert, A. R. (1949). **Experimental Lathyrism in the white rat and mouse.** Proceedings of the Society for Experimental Biology and Medicine **71**:440-441

Source: reprintDE

Lathyrism/ Rodents/ Lathyrus/ Rats/ Osteolathyrism/ Experimental lathyrism/ Lathyrism experimental/ Lathyrism France/ Lathyrism rats/ Mice reprint.

Ortiz de Landazuri, E. and Galdo Seco, A. (1949). **Observaciones en equidos de la fase de intervalo entre la administration de una dieta latirogena y el comienzo de la enfermedad [Observations on Equidae of the interval between giving a diet that produces lathyrism and the appearance of the disease].** Revista Clinica Espanola **32**:29-32.

An outbreak of lathyrism in horses in a province of Granada is reported. The animals had been fed for 97 days on a diet which included 2.6 kg blue vetch (D.E. comment: Lathyrus sativus) and 1 kg tares (yeros) [D.E. comment: Vicia ervilia] per head daily. Four days after discontinuing this diet, when the animals were receiving only barley and straw, the first case of lathyrism occurred. Eventually 15 of the 24 animals were affected, and the mortality was 25 per cent. The last case occurred 50 days after the vetch diet was discontinued. Hybrids seemed most susceptible to the disease. 14 of 16 mules being affected, but only 1 of 7 mares.

Source: The Veterinary Bulletin 1950(20) p 226 [original source Nutr. Abstr. Rev. 19, 496 (1949)]

Lathyrism Spain/ Spain lathyrism/ Lathyrus sativus/ Diet/ Feed/ Lathyrism/ Spain/ Spain L. sativus/ Vicia ervilia/ Horses/ Equidae/ Lathyrism horses/ Horses lathyrism/ Synergy Lathyrus sativus - Vicia ervilia.

Rampon (1949). **Les intoxications alimentaires des animaux.** Elevages Et Cultures De L'Afrique Du Nord **6** (Juin-Juillet):9

Source: ref ex Foury (1954)

Lathyrus toxicity animals/ Lathyrism animals/ Animals lathyrism/ Lathyrism/ Lathyrus toxicity/ Toxicity.

Gopalan, C. (1950). **The lathyrism syndrome.** Transactions of the Royal Society of Tropical Medicine and Hygiene **44**:333-336

Lathyrism review/ Lathyrism nutrition/ Syndrome/ Lathyrism/ Nutrition/ Review/ Tropical medicine/ Tropics.

Jiménez Díaz, C.; De Palacios, J. M., and Vivanco, F. (1950). **Perplejidades en el problema etiologico del latirismo.** Revista Clinica Espanola **36** (1):23-26

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain/ reprint.

K. O. (1950). **Tangier pea.** Herbage Abstracts **20**:171 No. 1031.

Lathyrus tingitanus indigenous to North Africa was recommended by Dr. Trabut, Algeria. Introduced to USA about 1900 as chicharaca, it was found to be more resistant to frost and drought than field peas, sweet clover (Melilotus) or vetches (Vicia spp., V. sativa etc.). It has been grown successfully on poor, sandy soil at a temperature as low as -7 deg C. In parts of Australia where annual rainfall is 16 in. L. tingitanus takes from 6 to 7 months to mature. Early autumn sowing in land prepared as for cereals is best. Seed rates from 8 to 30 lb. per acre are quoted. The seed can be broadcast, drilled or sown from a combine drill with 1 to 1.5 cwt. superphosphate per acre. Inoculation is recommended in the absence of suitable Rhizobia. A mixture of 5 to 8 lb. of Tangier pea sown with 1 bu. of oats per acre is said to make an excellent hay or silage crop. Although the forage of this pea is nutritious and highly palatable to stock, there is evidence from America that its seeds contain a toxic substance which can cause lathyrism in rats (Cf. Lewis et al. 1948). If tangier pea is grown for seed, the haulms left after threshing compare favourably with oat and bean straw. When chaffed and moistened they are relished by stock. Tangier pea can also be used as a green manure crop.

Forage L. tingitanus/ Mixtures L. tingitanus/ Lathyrus tingitanus toxicity/ Lathyrus tingitanus cultivation/ Agronomy L. tingitanus/ Rodents L. tingitanus toxicity/ Intercropping/ Forage/ Soil/ Lathyrus tingitanus/ Hay/ Straw/ Agriculture/ Green manure/ Africa/ Algeria/ Agronomy mixtures/ America/ Australia/ Cereals/ Climate/ Cold/ Cultivation/ Drought/ Fermentation/ Forage Australia/ Frosts/ Inoculation/ Lathyrism Algeria/ Lathyrism rats/ Lathyrus toxicity/ Manures/ Melilotus/ Mixtures crops/ North Africa/ Africa North/ Avena sativa/ Rats/ Resistance Rodents/ Sand/ Sandy Soil/ Seed/ Seeding/ Silage/ Soil sandy/ Temperature/ Toxicity/ USA/ Vicia spp/ Vicia/ Vicia sativa.

Lee, J. C. (1950). **Experimental lathyrism produced by feeding singletary pea (Lathyrus pusillus) seed.**

Journal of Nutrition **40**:263

Source: ref ex Selye (1957)

Lathyrus pusillus toxicity/ Toxicity L. pusillus/ Osteolathyrism/ Experimental lathyrism/ Feeding/ Lathyrism/ Lathyrism experimental Lathyrism France/ Lathyrism nutrition/ Lathyrus pusillus/ Lathyrus toxicity/ Nutrition/ Seed/ Toxicity Osteolathyrism/ Toxicity.

Rodriguez-Arias, B. (1950). **Estudio de una epidemia de latirismo en Espana.** Med. Clin **15**:370

Source: ref ex Selye (1957)

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain.

Rudra, M. N. and Kant, L. (1950). **A field investigation into lathyrism.** Indian Medical Gazette **75**:415-418

Lathyrism India/ India lathyrism/ India/ Lathyrism.

Aldama Truchuelo, J. M. and Mateo Real, M. (1951). **La arocnoiditis latirica.** Revista Clinica Espanola **52**(1):19-21[9]

Source: Moya et al 1967.

Lathyrism Spain/ Spain lathyrism/ Lathyrism/ Spain.

Gutierrez, H. (1951). **Etiology of lathyrism.** Anales De Bromatologia (Spain) **2**:261-269

Source: CA 45:5334, 1951

Lathyrism Spain/ Lathyrism/ Lathyrism etiology/ Spain.

Roy, D. N. (1951). **A note on field investigations of lathyrism in Madhya Pradesh in 1945.** Indian Medical Gazette **76**:263-265

Lathyrism India/ India lathyrism/ India/ India Madhya Pradesh/ Lathyrism/ Madhya Pradesh.

Trouette (1951). **La gesse et le lathyrisme.** Elevage Et Culture De L'Afrique Du Nord (3ieme Annee) **3** (25):6, 19

Source: ref ex Foury (1954)

Lathyrus sativus toxicity/ Lathyrism review/ Lathyrism Africa North/ Africa North lathyrism/ Lathyrus sativus/ Africa/ Lathyrism/ Lathyrus toxicity/ North Africa/ Africa North/ Review/ Toxicity L. sativus/ Toxicity.

Gilsanz, V. and Romeo Obregozo, J. M. (1952). **Tratamiento del latirismo con mephenesin.** Revista Clinica Espanola **45** (5):336-338

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism mephenesin treatment/ Lathyrism/ Lathyrism treatment/ Spain/ reprint.

Rizzotti, G. (1952). **Lathyrismo in Ethiopia.** Bulletino Della Societa Italiana Di Medicina e Igiene Tropicale **33**:493-500

Source: ref ex Tekle-Haimanot (1989)

Lathyrism Ethiopia/ Ethiopia lathyrism/ Ethiopia/ Lathyrism.

Rudra, M. N.; Chowdhury, L. M., and Sinha, S. P. (1952). **A preliminary report on the treatment of lathyrism with parenteral methionine.** Indian Medical Gazette **87**:89-91

Source: reprintDE

Sulfur amino acids/ Lathyrism treatment parenteral methionine/ Methionine lathyrism treatment/ Amino acids/ India/ India lathyrism/ Lathyrism Lathyrism India/ Lathyrism treatment/ Methionine/ Reports/ Sulfur/ reprint.

Schulert, A. R. (1952) **Studies of experimental lathyrism** [PhD thesis]: The University of Michigan, 112 pp. Osteolathyrism/ Dissertations/ Distribution plants/ Experimental lathyrism/ Lathyrism/ Lathyrism experimental/ Lathyrism France.

Schulert, A. R. and Lewis, H. B. (1952). **Experimental lathyrism.** Proceedings of the Society for Experimental Biology and Medicine **81**:86-

Source: ref ex Roy (pers. comm.)

Experimental lathyrism/ Osteolathyrism/ Lathyrism/ Lathyrism experimental/ Lathyrism France.

Dasler, W. (1954). **Observations on odoratism (sweet pea lathyrism) in the rat.** Journal of Nutrition **53**:105-113

Source: ref ex Roy (pers. comm.)

Osteolathyrism/ Lathyrus odoratus toxicity/ Osteolathyrism rat/ Rat Lathyrus odoratus/ Osteolathyrism/ Lathyrism nutrition/ Lathyrism rats Lathyrus odoratus/ Lathyrus toxicity/ Nutrition/ Rats/ Rodents/ Toxicity Osteolathyrism/ Toxicity L. odoratus/ Toxicity.

Dasler, W. (1954). **Partial protection against odoratism (sweet pea lathyrism) by diets high in gelatin or casein.** Proceedings of the Society for Experimental Biology and Medicine **85**:485-488

Source: ref ex Roy (pers. comm.)

Osteolathyrism protecting (partial) from/ Protection (partial) from Dietary influence on toxicity/ Toxicity dietary protection/ Lathyrus odoratus toxicity/ Toxicity L. odoratus/ NPAA toxicity/ Toxicity NPAA/ Lathyrus odoratus/ Osteolathyrism/ Biology NPAA/ Diet/ Dietary/ Lathyrus toxicity/ NPAA/ NPAA biology/ Toxicity Osteolathyrism/ Toxicity.

Dupuy, H. P. and Lee, J. G. (1954). **The isolation of material capable of producing experimental lathyrism.** Journal of the American Pharmaceutical Association **43**:61-62.

Lathyrus pusillus (seed): N-(2-cyanoethyl)glutamine; (S)-form.

Lathyrus pusillus toxicity/ NPAA toxicity gamma glutamyl beta aminopropionitrile/ NPAA gamma glutamyl beta aminopropionitrile/ Toxicity gamma glutamyl beta aminopropionitrile/ Toxicity L. pusillus/ Osteolathyrism/ NPAA gamma glutamyl peptides/ Aminopropionitriles Experimental lathyrism/ Gamma glutamyl peptides/ Glutamine/ Isolation/ Lathyrism/ Lathyrism experimental/ Lathyrism France/ Lathyrus pusillus/ Lathyrus toxicity/ NPAA/ Peptides/ Pharmaceutical/ Seed/ Toxicity Osteolathyrism/ BAPN/ Toxicity beta aminopropionitrile/ Toxicity.

Gallo, G. G. (1954). Rev. Vet. Milit. B. Aires (Revista De Veterinaria Militar) **2** (4):45

Lathyrism/ Lathyrus/ Argentina/ Argentina.

Dwivedi, M. P. (1955). **Report on lathyrism to the Government of Vinhya Pradesh.** Unpublished.

Lathyrism India/ India lathyrism/ India report/ India/ Lathyrism/ Reports.

Anonymous (1956). **Fetal resorption in lathyrism.** Nutrition Reviews **14**:303

Source: ref ex Selye (1957)

Lathyrism/ Lathyrism nutrition/ Nutrition/ Review.

Dupuy, H. P. (1956) **Studies in experimental lathyrism** [Phd thesis]: The Louisiana State University and Agricultural and Mechanical College, 66 pp.

Osteolathyrism/ Agriculture/ Dissertations/ Distribution plants/ Experimental lathyrism/ Lathyrism/ Lathyrism experimental/ Lathyrism France.

Lee, J. G.; Dupuy, H. P., and Rolfs, H. E. (1956). **Dietary proteins and the development of lathyrism.** Journal of Nutrition **58**:433

Source: ref ex Roy (pers. comm.)

Lathyrus odoratus toxicity/ Toxicity L. odoratus/ Osteolathyrism dietary proteins/ Dietary proteins Lathyrus odoratus/ Osteolathyrism/ Diet Dietary proteins/ Differentiation/ Dietary/ Lathyrism/ Lathyrism nutrition/ Lathyrus odoratus/ Lathyrus toxicity/ Nutrition/ Protein/ Toxicity Osteolathyrism/ Toxicity.

Strong, F. M. (1956). **Lathyrism and odoratism.** Nutrition Reviews **14**:65-

Source: ref ex Selye (1957)

Lathyrism/ Osteolathyrism/ Lathyrism nutrition/ Nutrition/ Review.

Major, R. H. (1957). **How Hippocrates made his diagnoses.** Intern. Rec. Med. **170**:481

Source: Grmek (1980)

Hippocrates/ History lathyrism/ History/ History of Medicine/ Lathyrism/ Lathyrism history.

Selye, H. (1957). **Lathyrism.** Rev. Can. Biol **16**:3-82.

Excellent review with 192 references.

Source: reprintDE

Lathyrism/ Lathyrus/ Lathyrism review/ Review/ reprint.

Subrahmanyam, V.; Narayana Rao, M., and Swaminathan, M. (1957). **Lathyrism**. Food Science **6**:156-159

Source: DE_94_2

Lathyrism India/ India lathyrism/ Food/ India/ Lathyrism.

Dastur, D. K. and Iyer, C. G. S. (1959). **Lathyrism versus Odoratism**. Nutrition Reviews **17**:33

Review lathyrism/ Lathyrism review/ Osteolathyrism/ Lathyrism/ Lathyrism nutrition/ Nutrition/ Review.

Govil, K. K.; Gupta, B. M.; Kapur, S. D.; Chakravarty, N. C.; Bhatnagar, D. P., and Pant P. C. (1959). **Field investigation of lathyrism in Uttar Pradesh**. Journal of the Indian Medical Association **33**:499-506

Lathyrism India/ Uttar Pradesh lathyrism/ India/ India Uttar Pradesh/ India lathyrism/ Lathyrism/ Uttar Pradesh.

German, W. J. (1960). **Lathyrism, a review of recent developments**. Journal of Neurosurgery **17**:657-663

Lathyrism review/ Germany/ Lathyrism/ Review.

Cruickshank, E. K.; Montgomery, R. D., and Spillane, D. (1961). **Obscure neurologic disorders in Jamaica**. World Neurology **2**(3):254-260

Source: Moya et al 1967.

Lathyrism related diseases/ Lathyrism.

Ganapathy, K. T. and Dwivedi, M. P. (1961). **Studies on the clinical epidemiology of lathyrism**. Rewa [New Delhi]: Indian Council of Medical Research Report Gandhi Memorial Hospital.

Lathyrism epidemiology/ Delhi/ Epidemiology lathyrism/ India/ India lathyrism/ Lathyrism/ Lathyrism India/ Reports.

Ganapathy, K. T. and Dwivedi, M. P. (1961). **Studies on the clinical epidemiology of lathyrism**. Rev. edn. **1-55**. Rewa, Madhya Pradesh: Government Regional Press.

Lathyrism epidemiology/ Epidemiology lathyrism/ Lathyrism/ Madhya Pradesh.

Hall, P. (1961). **Neurologic studies in Ethiopia**. World Neurology **2**(8):731-739

Lathyrism/ Lathyrism Ethiopia/ Ethiopia lathyrism.

Martin, G. R.; Mergenhagen, S. E., and Prockop, D. J. (1961). **Influence of scurvy and lathyrism on hydroxy-proline excretion**. Nature **191**:1008-1009

Lathyrism physiology/ Hydroxy-proline excretion lathyrism/ Lathyrism/ Physiology not plant/ Proline.

Shah, T. K.; Chatterjee, S. B., and Choudhary, R. N. (1961). **Lathyrism in a rural area of West Bengal**.

Bull. Cal. S. T. M **8**:98-99

Lathyrism Bangladesh/ Bangladesh lathyrism/ Bangladesh/ Lathyrism/ Rural/ West Bengal.

Dastur, D. K. (1962). **Lathyrism. Some aspect of the disease in man and animals**. World Neuro **3**:721-730

Source: ref ex Roy (pers. comm.)

Lathyrism/ Lathyrism animals/ Humans.

Dwivedi, M. P. (1962) **An epidemiological study on lathyrism in the district of Rewa M. P** [M. D. thesis].

Lucknow: Lucknow University

Source: ref ex Dwivedi (1989).

Lathyrism epidemiology/ Lathyrism India/ India lathyrism/ Epidemiology lathyrism/ India/ Lathyrism.

Fernandez Marcos, E. and Romero, F. (1962). **Sobre un nuevo concepto etiopatogenico del latirismo**. Med. Clin. **38**(3):179-184

Source: Moya et al 1967.

Lathyrism Spain/ Spain lathyrism/ Lathyrism etiology/ Lathyrism etiology/ Lathyrism etiology analysis/ Etiology/ Lathyrism.

McCallum, Helen M. M. (1962) **Lathyrism in vivo and in vitro** [Thesis (M.D.)]. Glasgow: Glasgow University

Lathyrism/ Scotland/ Medical/ Dissertations.

Paissios, C. S. and Demopoulos, T. (1962). **Human lathyrism: a clinical and skeletal study**. Clin. Orthop. **23**:236-249

Lathyrism clinical/ Lathyrism skeletal/ Bones/ Lathyrism/ Humans/ Skeletal.

Romero, E. and Fernandez Marcos, E. (1962). **Aportacion clinica de latirismo como enfermedad familiar**. Revista Clinica Espanola **85** (4):270-274.

5 of 8 brothers in one family were affected by lathyrism in 1947. To explain this high frequency within a single family, the authors support the hypothesis that a genetic enzyme deficiency coupled with *L. sativus* toxicity is responsible for lathyrism.

Source: reprintDE

Lathyrism Spain/ Spain lathyrism/ Lathyrism genetic susceptibility/ Toxicity/ Lathyrus sativus/ Deficiency/ Enzymes/ Lathyrism/ Lathyrus toxicity/ Spain/ Spain *L. sativus*/ Susceptibility/ Toxicity *L. sativus*/ reprint.

Gardner, A. F. and Sakiewicz, N. (1963). **A review of neurolathyrism including the Russian and Polish literature.** Exp. Med. Surgery **21**:164-191

Lathyrism/ Lathyrism review/ Review lathyrism.

Roy, D. N.; Nagarajan, V., and Gopalan, C. (1963). **Production of neurolathyrism in chicks by injection of *Lathyrus sativus* concentrates.** Current Science **32**:116-118

Source: reprintDE

Lathyrism bioassay/ Bioassay chicks/ Neurology/ Lathyrus sativus/ Bioassay/ Bioassay *L. sativus*/ Lathyrus sativus bioassay/ Injections Lathyrism/ Neurolathyrism/ Poultry/ reprint.

Bell, E. A. (1964). **Relevance of biochemical taxonomy to the problem of lathyrism.** Nature **203**:378-380

Source: reprintDE

NPAA Lathyrus/ Lathyrus spp toxicity/ Toxicity Lathyrus spp/ Chemotaxonomy Lathyrus spp/ Taxonomy/ Chemotaxonomy/ Lathyrism Lathyrus spp/ Lathyrus toxicity/ NPAA/ Toxicity/ reprint.

Dwivedi, M. P. (1964). **A review of the works done on lathyrism.** Indian Medical Gazette **Sept**:51-52

Lathyrus sativus toxicity/ Lathyrism review/ Lathyrus sativus/ India/ India *L. sativus*/ India lathyrism/ Lathyrism/ Lathyrism India/ Lathyrus toxicity/ Review/ Toxicity *L. sativus*/ Toxicity.

Dwivedi, M. P. and Prasad, B. G. (1964). **An epidemiological study of lathyrism in the district of Rewa, Madhya Pradesh.** Indian Journal of Medical Research **52**:81

Lathyrism India/ India lathyrism/ Lathyrism epidemiology/ Epidemiology lathyrism/ India/ India Madhya Pradesh/ Lathyrism/ Madhya Pradesh.

Indian Council of Agricultural Research (1964). **Lathyrism: A preventable paralysis.** New Delhi: Indian Council of Agricultural Research.

Lathyrism prevention/ Prevention lathyrism/ India lathyrism/ Lathyrism India/ Agriculture/ Delhi/ India/ Lathyrism/ Paralysis.

Maymone, B.; Bataglini, A., and Mazziotti di Celso, P. (1964). **Data on lathyrism, digestibility and net energy of *Lathyrus*.** Alimentaz. Anim **8** (11):495-509 (author affiliation: Ist. exp. Zootec., Rome)

Review of lathyrism literature, the toxins involved and the chemical composition and digestibility of the forage.

Source: HA 36:762

Review Lathyrism literature/ Forage chemical composition review/ Forage digestibility/ Nutritional value/ Antinutritional factors/ Forage Lathyrus sativus/ Chemical composition/ Digestibility/ Energy/ Forage chemical composition/ Lathyrism/ Lathyrism review/ Review/ Toxin.

Ramachandran, L. K. and Rao, K. K. (1964). **A simple method for the preparation of lathyrine, some properties of lathyrine.** Biochemical Systematics and Ecology **86**:264-269.

Lathyrus tingitanus (seed): 1,4-butanediamine (lathyrine). Intraperitoneal administration of lathyrine (100-400 mg/kg) to rats, mice, chicks elicits no toxic symptoms.

Source: reprintDE

NPAA/ Lathyrine isolation/ NPAA Rodents/ Tingitanine/ Lathyrus tingitanus/ Lathyrism symptoms/ Amino acids/ Ecology/ Isolation Lathyrism/ Lathyrism rats/ Lathyrus toxicity/ Mice/ NPAA/ Poultry/ Rats/ Rodents/ Seed/ Symptoms lathyrism/ Systematics/ Toxicity/ reprint.

Ardelt, W. (1965). **Biochemia lathyryzmu [Biochemistry of lathyrism].** Postepy Biochem **11** (4):413-426

Source: Medline (66-69) 66065840

Lathyrism metabolism/ Biochemistry/ Lathyrism/ Lathyrism Biochemistry/ Metabolism.

Maymone, B.; Battaglini, A., and Mazziotti Di Celso, P. (1965). **Knowledge on lathyrism. Digestibility and net energy of *Lathyrus*.** Wld Rev. Anim. Prod **1**:69-82

Source: HA 36:193

Lathyrus sativus nutritive value/ Nutrition/ Digestibility *L. sativus*/ Energy *L. sativus*/ Nutritional value/ Lathyrus sativus/ Digestibility/ Energy Lathyrism/ Lathyrism nutrition.

Ollerich, D. A. (1965) **An autoradiographic study of lathyrism using tritiated thymidine** [PhD thesis]:

The University of North Dakota

Lathyrism labelled thymidine/ Thymidine radioactive lathyrism/ Dissertations/ Distribution plants/ Lathyrism/ Thymidine.

Rodriguez, R. M. Sr; Bailey, R. W., and Rodriguez, R. P. Jr (1965). **Skeletal lesions of lathyrism and effects of bipedalism on spine development.** Clin. Orthop. **41**:189-197

Source: Medline (66-69) 66014024

Rabbits/ Rats/ Kyphosis etiology/ Lathyrism complications/ Scoliosis etiology/ Rodents/ Neurology/ Bones/ Lathyrism/ Lathyrism etiology
Lathyrism rats/ Lathyrism skeletal/ Skeletal/ Spine.

Schweppe, J. S.; Baserga, R.; Harris, L., and Jungmann, R. A. (1965). **Lathyrism and 7,12 dimethylbenzanthracene induced carcinoma in the rat.** Nature **207** (994):310-311

Source: Medline (66-69) 66158108

Estrogens metabolism/ Rats/ Cyanides pharmacology/ Lathyrism/ Neoplasms Experimental etiology/ Rodents/ HCN/ Lathyrism etiology
Lathyrism rats/ Metabolism.

Staemmler, M. and Lagler, F. (1965). **Anatomische Beobachtungen bei experimentellem Neurolathyrismus. [Anatomical observations in experimental neurolathyrism].** Zentralbl Allgemeine Pathologie **107** (2):233-241

Source: Medline (66-69) 66063710

Ganglia Spinal pathology/ Microscopy/ Neurologic Manifestations/ Rats/ Central Nervous system diseases pathology/ Cyanides poisoning
Lathyrism pathology/ Rodents/ Neurology/ Central Nervous system/ Ganglia/ HCN/ Lathyrism/ Lathyrism Anatomy/ Lathyrism rats/ Nervous system/ Neurolathyrism/ Spinal cord/ Nervous system diseases.

Toledano Jimenez Castellanos, A. and Lopez Aydillo, N. R. (1965). **Efecto de la harina de almortas (Lathyrus sativus) en papilla frente a los ratones blancos Por via oral. Nota preliminar. [Effect of the flour of peas (Lathyrus sativus) in porridge on white mice after oral administration. Preliminary note].** Revista Clinica Espanola **97** (5):328-333

Source: Medline (66-69) 66050196

Spain/ Mice/ Alopecia etiology/ Brain Diseases etiology/ Lathyrism pathology/ Rodents/ Neurology/ Lathyrus sativus/ Alopecia/ Brain/ Brain diseases/ Flour/ Lathyrism/ Lathyrism etiology/ Lathyrism Spain/ Spain L. sativus.

Wajda, A. (1965). **Ashes.** Munich, Germany: Atlas International.

In the film 'Ashes' [English title] by Andrzej Wajda based on the novel 'Lost army' [English title] by Stephen Zeromsky spanning the period 1798-1812, a horse is poisoned by grain from a Spanish village. The footage of the horse losing control of its hindlegs and falling down a steep cliff is very graphic. This black and white film was broadcast by the Australian channel SBS on the 2.6.1996 at 0.30 am. Distributor of the film is Atlas International in Munich, Germany Ph: 89227525, Fax: 89224332. Inclusion of this item in the bibliography aims to draw attention to the visual media as potential sources of illustrative material and knowledge about lathyrism.

Lathyrism history/ History lathyrism/ Cinema/ Film/ Visual media/ Horses/ Horses lathyrism/ Lathyrism Spain/ Spain lathyrism/ Lathyrism Spain.

Yeager, V. L. and Taylor, J. J. (1965). **Periosteal response in lathyrism after semistarvation.** Arch Pathol **80** (6):647-650

Source: Medline (66-69) 66073361

Semistarvation ?lathyrism/ Lathyrism fasting rats/ Lathyrism periosteum surgery/ Rodents/ Lathyrism/ Lathyrism rats/ Rats.

Carbini, L.; Luchi, P., and Peretti, G. (1966). **[Oxidative phosphorylation and ATP in hepatic mitochondria of lathyrict chickens].** Boll Soc Ital Biol Sper **42** (18):1238-1240 (author affiliation: La fosforilazione e l'ATP in mitocondri epatici di pulcine latirici)

Source: Medline (66-69) 67179713

Poultry/ Adenosine Triphosphate metabolism/ Lathyrism metabolism/ Liver metabolism/ Mitochondria metabolism/ Oxidative Phosphorylation
Osteolathyrism/ Beta aminopropionitrile/ Agriculture/ Adenosine triphosphate/ Aminopropionitriles/ Chickens/ Lathyrism/ Liver/ Metabolism
plant/ Mitochondria/ BAPN.

Coons, C. M. and Cress, S. L. (1966). **Selected references on lathyrism; research, experimental and clinical.** Washington: U.S. Dept. of Agriculture, Agricultural Research Service, Office of Administrator, 25 p.

Source: NAL CALL NO: aZ6675 T8C6 ex. USDA NAL catalogue/telnet - also Library of Congress

Lathyrus bibliography/ Bibliography Lathyrus/ Bibliography lathyrism/ Lathyrism bibliography/ Agriculture/ Bibliography/ Lathyrism/ USDA.

La Bella, F. S. (1966). **Pharmacological retardation of aging.** Gerontologist **6** (1):46-50

Source: Medline (66-69) 66110038

Lathyrism/ Aging drug effects/ Drugs.

López Aydillo, N. R. (1966). **Acerca del llamado 'latirismo o neurolatirismo experimental'. Resultados de nuestras experiencias en ratas noruegas con el bis-betacianoetilamina o B-B'-iminodipropionitrilo (IDPN). [On the so called 'experimental lathyrism or neurolathyrism'. Results of our experiments in**

Norwegian rats with bis betacyanoethylamine or B B' iminodipropionitrile (IDPN)]. Trab. Inst. Cajal. Invest. Biol **58**:1-54

Source: Medline (66-69) 68156258

Rats/ Cyanides poisoning/ Lathyrism pathology/ Nervous system pathology/ Rodents/ Neurology/ Osteolathyrism/ Experimental lathyrism HCN/ Lathyrism/ Lathyrism experimental/ Lathyrism France/ Lathyrism rats/ Nervous system/ Neurolathyrism/ Norway.

Nagarajan, V.; Mohan, V. S., and Gopalan, C. (1966). **Further studies on toxic factors in Lathyrus sativus. Potentiation of a toxic fraction from the seed by some amino acids.** Indian Journal of Biochemistry **3** (2):130-131

Source: Medline (66-69) 67134276 reprintDE

Amino acids pharmacology/ Lathyrism India/ India lathyrism/ Biochemistry/ Lathyrus sativus/ Amino acids/ India/ India L. sativus/ Lathyrism Lathyrism Biochemistry/ Lathyrus toxicity/ Seed/ Toxicity L. sativus/ Toxicity/ reprint.

Sacks, O. W. and Brown, W. J. (1966). **The axonal dystrophies.** Bull Los Angeles Neurol Soc **31** (1):35-41

Source: Medline (66-69) 66153178

Cyanides poisoning/ Hallervorden Spatz Syndrome/ Lathyrism/ Lipoidosis/ Vitamin E Deficiency/ Axons pathology/ Nervous system diseases Neurology/ Axons/ Syndrome/ Deficiency/ HCN/ Lathyrism pathology/ Nervous system/ Tocopherols/ Vitamin E/ Vitamins.

Strong, F. M. (1966). **Naturally occurring toxic factors in plants and animals used as food.** Canadian Medical Association Journal **94** (12):568-573

Source: Medline (66-69) 66096918

Cyanides poisoning/ Food Analysis/ Glycosides poisoning/ Goitre etiology/ Hypertension etiology/ Lathyrism etiology/ Monoamine Oxidase Inhibitors/ Sulfur poisoning/ Sympathomimetics poisoning/ Meat/ Plant Poisoning/ Plants Edible toxicity/ Glycosides/ Aminopropionitriles Food/ Goitre/ HCN/ Hypertension/ Lathyrism/ Lathyrism animals/ Monoamine/ Sulfur/ BAPN/ Toxicity beta aminopropionitrile/ Toxicity.

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Source: Medline (66-69) 68091672; reprintDE

India/ Cookery India/ Lathyrism etiology/ Lathyrus sativus processing/ Processing India L sativus detoxification/ Lathyrus sativus detoxification Homeeconomics/ Socioeconomics/ Antinutritional factors/ Economics/ Lathyrus sativus/ Climate/ Cookery/ Detoxification L. sativus/ Drought India L. sativus/ India L. sativus consumption/ India lathyrism/ Lathyrism/ Lathyrism economics/ Lathyrism India/ Lathyrism nutrition Lathyrus toxicity/ Nutrition/ Processing/ Review/ Seed/ Soaking/ Spain/ Spain L. sativus/ Toxicity L. sativus/ Toxicity/ Toxin/ Varieties Vitamins/ Water detoxification/ Water/ reprint.

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 Alanine Aminotransferase blood/ Aminobutyric Acids/ Aspartate Aminotransferase blood/ Chromatography Paper/ Cyanides/ Fetal Death chemically induced/ Fetal Death veterinary/ Plant Extracts/ Pregnancy/ Sheep/ Abortion Veterinary/ Lathyrism veterinary/ Plant Poisoning veterinary/ Sheep Diseases chemically induced/ Ruminants/ Agriculture/ Aspartate Aminotransferase/ Aspartic acid/ Blood/ Chromatography Experimental lathyrism/ Extraction/ HCN/ Lathyrism/ Lathyrism experimental/ Lathyrism France/ Plant poisoning.
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Source: HA 39:294

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