

# LEXICON OF PULSE CROPS



Aleksandar Mikić

# Lexicon of Pulse Crops



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Aleksandar Mikić

with original color drawings by the author



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*To Sonja, Mihailo, and Sanja, for their Love.*



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# Foreword

*Prove thy servants, I beseech thee, ten days; and let them give us pulse to eat, and water to drink.*

(Daniel 1:12)

*Therefore is the name of it called Babel; because the Lord did there confound the language of all the earth: and from thence did the Lord scatter them abroad upon the face of all the earth.*

(Genesis 11:9)

These two paragraphs may describe best what this book is about and what is its goal. It is about the cultivated plants, commonly known as pulses or grain legumes, about the origin and diversity of their popular names in the languages of the world, and about the beauty of both. Being a plant scientist, specializing in grain legume genetics, breeding, and genetic resources, I have been impressed for decades by the striking similarities among common names denoting pea, faba bean, or lentil in geographically distant languages. These impressions had merely been deposited in some side corridors of my mind until, almost 11 years ago, I decided to venture into first attempts of gathering, systematizing, and writing down something on this topic. I was extremely cautious, almost scared, because although I felt quite confident to deal with the issues that link plant-related disciplines, I was aware that I absolutely had no qualifications in linguistics. Moreover, I was challenged not only by lexicology, but also by etymology, meaning that I could easily produce and publish completely wrong and misleading results I would have been ashamed of and, worst of all, ridiculed for by the linguistic community. Thank God, it has not been so, save for few times. Both negative and positive critics I received were very helpful for my further work, and the last decade brought forth a number of results, published in both plant science and linguistic international journals. In light of all that has been said, this book should be considered as a database of the vernacular names relating to pulse crops in various languages and a study of their attested and possible origin, development, and mutual impacts.

The first two chapters aim to provide both agronomic and linguistic perspective: the [first chapter](#) is designed to present pulse crops to the readers dealing with languages, while the second one intended to give an account on ethnolinguistics families to those belonging to the plant sciences community. At the same time, both chapters may address the experts in their own topics and, after all, inform any reader interested in these two subjects without necessary scientific background. The remaining fourteen chapters have identical structure. In each first section, the species and subtaxa are listed after their scientific names and according to several most widely accepted classifications, such as *The Genetic Resources Information Network (GRIN)*, *The International Legume Database & Information Service (ILDIS)*, or *The Plant List*, together with their synonyms, and followed by the compiled common names in every language I found available. The second section of [Chapters 3 through 14](#) represents an analysis of the common names from an etymological viewpoint, delivering a review of the widely accepted explanations and assumptions for those

that have not been sufficiently clarified yet. The lexicon contains more than 9500 popular names in more than 900 living and extinct languages, dialects, and speeches of all the ethnolinguistic world families for about 1500 species and their subtaxa of 12 main grain legume genera.

At the beginning I had a somewhat obscure idea of what number of vernacular names for one grain legume taxon is adequate for listing them in the form of tables, but, gradually, while systematizing the data, the number 12 seemed to be most suitable: the reader will find more than 80 tables, with the common names shown after their alphabetically listed languages. Unfortunately, it was not feasible to include the synonyms for all languages, dialects, and speeches and I was forced to choose those that seemed to be most in use. When the source did not specify the variety of some language, then the name of the language is given generally, such as, for instance, *Chinese*, when it was not stated if *Cantonese* or *Mandarin Chinese*. There are also 14 drawings that symbolically depict the evolution of some proto-word into its mediating derivatives and contemporary descendants. The references for all the chapters are unified, mostly because the sources for lexicological data were, more or less, identical for all.

I would like to thank the following people for providing me with hardly accessible information about the names in various languages, dialects and speeches, most of which are gravely endangered or on an inevitable way to perish forever: the esteemed elders of the Miriwoong people with Ms. Maryann of the Yawuru people, Amanda Lissarague, Clarrie Kemarr Long, Frances Kofod, Knut J. Olawsky, and Jane Simpson for the Australian Aboriginal languages, Kenny Coeck for the Dutch dialects of Belgium and the Netherlands, Anicet Gbaguidi for the languages of Benin, Olga Borisovna Kovan with Hidetoshi Shiraiishi and Miki Mizushima for Nivkh, Alija Kurtiši for Gora Serbian, Ismo Porna with Kirsti Aapala, Timo Kunnari, Tanja Kyrö, Irma Lahti, Tauno Ljetoff and Bengt Pohjanen for Finnic and Sami, Dragica Radovanović for Dalmatia Serbian, Roman Rausch for the Tolkienian Elvish, Lars Steensland for Elfdalian and Claus Wenicker for Colognian.

An immense gratitude is owed to many colleagues and friends of mine, who have been encouraging me constantly to carry on this sort of research over the years, especially to John Bengtson, Aleksandra and Branko Čupina, Antonio De Ron, Gérard Duc, Frank Dugan, Noel Ellis and Julie Hofer, Howard Huws, Brigitte Maass, Aleksandar Medović, Andrey Sinjushin, Richard Thompson, Astrid van Nahl, Margarita Vishnyakova, Tom Warkentin and Bojan Zlatković, as well as to the three pivotal persons in my life that have essentially helped me to articulate and develop my scientific and artistic interests, namely Alfredo Castelli, Vladimir R. Đurić (1947–2010) and Aleksandar B. Popović (1973–1999). I also owe a deep respect to the reviewers of the book manuscript and the Taylor & Francis team led by most kind Ms. Randy Brehm for their assistance, efficiency and patience.

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TR-31024 of the Ministry of Education, Science and Technological Development of the Republic of Serbia. It is also a tribute to Sergei A. Starostin (1953–2005), the founder, and George S. Starostin, the keeper of *The Tower of Babel, Evolution of Human Language Project*, together with their fellow colleagues, all genial linguistic minds and genuine polymaths.

I sincerely wish that the reader will enjoy browsing and reading this lexicon of pulses, the crops so essential and sufficient for the nutrition and health of the speakers of all the world's languages, like they were for Daniel with his comrades and despite the geographical dispersal of the human race.

**Aleksandar Mikić**  
*Novi Sad, Serbia*



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# Author



**Aleksandar Mikić, PhD**, born in Pančevo, Serbia, in 1974, is Research Associate and annual legume breeder at the Institute of Field and Vegetable Crops in Novi Sad, Serbia. His fields of interest encompass conventional and molecular genetics, genetic resources, breeding, agronomy, agroecology, and crop history of annual legumes. Dr. Mikić co-authored more than 350 journal papers, about 120 international conference papers, over 10 book chapters, and more than 30 legume cultivars. He is also one of the founding members of the *International Legume Society* (2012), among the creators of the *UN FAO 10-Year Research Strategy*

*For Pulse Crops* (2016) and is a member of the Editorial Board of the journal *Genetic Resources and Crop Evolution* (since 2018).





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# 1 World's Pulses

*Where the global pulse beats mightiest* was the title of the seventh issue of the journal *Legume Perspectives*, devoted to the major grain legume scientific event in 2014, held in Saskatoon, Canada, one of the pivotal places where the research of various pulse crops advances in great moves to the common welfare. This title was, of course, a wordplay with two meanings of the word *pulse*, the one in an agronomic sense, where it denotes a grain legume crop used for human and animal nutrition, and the other from a medical viewpoint, referring to a normally regular beat caused by the pumping action of the heart. A similar wordplay was used to entitle the *carte blanche* of this journal's issue, *A meeting with pulse beating* (Warkentin 2014). Both titles, as well as the front cover artwork, showing a stripe made of pulse grains running across our planet in the form of a normal electrocardiography line, referred not only to the contribution made by pulses to the global health, but also attempted to point out how these two meanings of this word, or, more precisely, these two homonyms, rhythmically pulse in human metabolism and human diets. The modern English term *pulse*, in its botanical sense, either came together with the Norman conquest of England in the eleventh century, having evolved from the Old French *pols*, *pouls*, or directly from the Latin *puls*, denoting meal or porridge; in its turn, the latter is a borrowing of the Ancient Greek *póltos*, relating to porridge, and, ultimately, originates from the Proto-Indo-European *\*pel*, *\*pela*, *\*plē-*, meaning *dust* or *flour* (Pokorny 1959, Nikolayev 2012). The pulse crops are, as already said, legumes that belong to the immensely abundant plant family of *Fabaceae* Lindl. (syn. *Leguminosae* Juss., *Papilionaceae* Giseke), with between 700 and 800 genera and around 19,000 systematized species (Christenhusz and Byng 2016). Among the economically most important pulse crops in the world and throughout the known human history are the taxa of the genera *Arachis* L., *Cajanus* Adans, *Cicer* L., *Glycine* Willd., *Lablab* Adans, *Lathyrus* L., *Lens* Mill., *Lupinus* L., *Phaseolus* L., *Pisum* L., *Vicia* L., and *Vigna* Savi and the species *Vicia ervilia* (L.) Willd., and *Vicia faba* L. (Figure 1.1). As a rule, the pulses are considered food legumes, in the form of an immature or mature grain and, sometimes, an immature pod, which is the reason why the terms *pulse* and *grain legume* are regarded as synonyms (Turner et al. 2001). Their additional forms of use often comprise mature grain in animal feeding, fresh and field-dried forage, forage meal, straw as both feed and biofuel and, in wild flora, grazing and browsing by livestock and other animals (Voisin et al. 2014). The cool season pulses exist in spring- and autumn-sown forms (Mikić et al. 2011), while all pulses are frequently cultivated together, or, in more specialized words, *intercropped*, most often with cereals (Bedoussac et al. 2015), but also with crucifers (Marjanović-Jeromela et al. 2017) or with each other (Antanasović et al. 2011, Zorić et al. 2015). The pulse grain and other plant parts are precious sources not only for food and feed, but also in various industries (Vaz Patto et al. 2015), medicine, and pharmacy (Lin et al. 2001).



**FIGURE 1.1** (See color insert.) Some of the most significant pulse crops, today and in the past: (from left to right and from above to below) *Arachis hypogaea* L., *Cajanus cajan* (L.) Huth, *Cicer arietinum* L., *Vicia ervilia* (L.) Willd., *Vicia faba* L., *Glycine max* (L.) Merr., *Lablab purpureus* (L.) Sweet, *Lathyrus odoratus* L., *Lens culinaris* Medik., *Lupinus albus* L., *Lupinus texensis* Hook., *Phaseolus lunatus* L., *Pisum sativum* L., *Vicia villosa* Roth, *Vigna angularis* (Willd.) Ohwi & H. Ohashi, *Vigna subterranea* (L.) Verdc.

Having defined the meaning of the word *pulse*, we may proceed with attempting to answer the question, what exactly is a crop? Summarizing numerous uses of this word, primarily from the agronomic viewpoint and merging it with its meaning in a broader, economic or industrial sense, we may say that a crop is a plant species that is purposely grown for a specific product or utilization in a process that requests a full attention of the human factor—ranging from the very beginnings, in the form of sowing, planting, or propagating—over various measures during the plant growth and development until the end, such as cutting, harvesting, or gathering. Strictly, crops refer to the plants cultivated for food or feed in the field and in small-scale land and water resources, such as gardens. Broadly, crops encompass the fruit trees, medicinal, ornamental and biofuel plants, fungi, and, extremely

rarely, certain animals or microorganisms. The status of any plant as crop is not definite and may vary during the time, being conditioned by various factors and this is fully valid for the pulses and all legumes. There are a large number of those that are regarded as a kind of *always-have-been-and-always-will-be* crops, such as chickpea (*Cicer arietinum* L.), lentil (*Lens culinaris* L.), or pea (*Pisum sativum* L.). Some may be considered as both crops and as a part of local wild flora, such as hairy vetch (*Vicia villosa* Roth). Although they may be used for the same purpose, either as a crop or a part of wild flora, these plants must be sown to be considered crops (Mikić and Mihailović 2014a). We also distinguish plant species that used to be crops and today are, almost or completely, not, such as bitter vetch (*Vicia ervilia* [L.] Willd.), as well as those which manage to make a kind of revival, such as French serradella (*Ornithopus sativus* L.) (Mikić 2015b). There are species that could have been crops, but which attempts to be domesticated were abandoned, ending with their return to wild flora, such as in the case of *Vicia peregrina* L. (Melamed et al. 2008) and, on the other hand, those currently wild, but with a potential for becoming a crop, like *Vicia noeana* Reut. ex Boiss. (Mikić et al. 2016). After all, there is a countless wealth of crop wild relatives (Maxted et al. 2006), many of which have various beneficial characteristics, which may be introgressed into their cultivated cousins. Such are undomesticated species, like red-yellow pea (*Pisum fulvum* Sm.) (Mikić et al. 2013b), or semi-domesticates, which often shift from wild to agricultural flora and *vice versa*, like *P. sativum* L. subsp. *elatius* (Steven ex M. Bieb.) Asch. & Graebn. (Zlatković et al. 2010, Ćupina et al. 2011, Mikić and Mihailović 2014a). In addition, at any point during the long history of agriculture, we always may easily find examples of a plant that is a more or less important crop in a certain environment, while, concurrently and only a few hundred miles away, it is completely unknown or is considered wild or weed. As may be seen, the story of the pulse crops is, similarly to the abovementioned homonym, fluctuating and dynamic, pulsing at its own pace through space and time.

For the purpose of this chapter, the data on production, area, and yield of selected pulse crops, provided by the Food and Agriculture Organization (FAO) of the United Nations (FAOSTAT 2017), are presented on the basis of these three criteria and are given for the first five leading countries and the world's average and for the last available year, that is, 2014 (Table 1.1).

Without any need to perform some rather thorough analysis of the shown data, it would be quite enough to note several facts. Among the top five producers of monitored pulse crops, there are countries from all the continents and contrasting climates. Opposing this diversity, China is present in almost all cases, confirming its role as the largest global producer (and consumer) of the vast majority of pulse crops (Table 1.1). Also, there are many obvious differences in all three parameters among individual crops, such as tens of millions of tons in soybean (*Glycine max* [L.] Merr.) in contrast to tens of thousands of tons in bambara groundnut (*Vigna subterranea* [L.] Verdc.) or yield, being mostly around one ton per hectare of dry grain and with more than five times higher yield in soybean in comparison to the one in cowpea (*Vigna unguiculata* [L.] Walp.). All this, in brief, confirm that the yield in grain legumes is generally lower than, for instance, in cereals, leading to most often a greater interest among the farmers in the latter, because of higher

**TABLE 1.1**  
**The Data on Production, Harvested Area, and Yield of Pulse Crops in the World in 2014, Provided by the Food and Agriculture Organization (FAO) of the United Nations (FAOSTAT 2017); for Each Crop, the Five Greatest Producers Are Given, Listed Alphabetically, as Well as the World's Average**

Country	Production (t)	Area (ha)	Yield (kg ha <sup>-1</sup> )
<b><i>Arachis hypogaea</i> L. (Groundnuts, with Shell)</b>			
China	16,481,700	4,603,850	3,580
India	6,557,000	4,685,000	1,400
Nigeria	3,413,100	2,770,100	1,232
Sudan	1,767,000	2,104,000	840
United States	2,353,540	535,200	4,397
World	43,915,365	26,541,660	1,655
<b><i>Cajanus cajan</i> L. (Huth) (Pigeon Peas)</b>			
India	3,290,000	5,602,000	587
Kenya	274,523	276,124	994
Malawi	335,165	81,753	4,100
Myanmar	575,100	611,600	940
Tanzania	248,000	250,509	990
World	4,890,099	7,033,049	695
<b><i>Cicer arietinum</i> L. (Chickpeas)</b>			
Australia	629,400	507,800	1,239
Ethiopia	458,682	239,755	1,913
India	9,880,000	9,927,000	995
Myanmar	562,163	384,217	1,463
Turkey	450,000	388,169	1,159
World	13,730,998	13,981,218	982
<b><i>Glycine max</i> (L.) Merr. (Soybeans)</b>			
Argentina	53,397,715	19,252,552	2,774
Brazil	86,760,520	30,273,763	2,866
China	12,154,000	6,799,900	1,787
India	10,528,000	10,908,000	965
United States	106,877,870	33,423,750	3,198
World	306,519,256	117,549,053	2,608
<b><i>Lens culinaris</i> Medik. (Lentils)</b>			
Australia	238,120	162,400	1,466
Canada	1,987,000	1,217,100	1,633
India	1,100,000	1,800,000	611
Nepal	226,830	205,939	1,101

(Continued)

**TABLE 1.1 (Continued)**  
**The Data on Production, Harvested Area, and Yield of Pulse Crops in the World in 2014, Provided by the Food and Agriculture Organization (FAO) of the United Nations (FAOSTAT 2017); for Each Crop, the Five Greatest Producers Are Given, Listed Alphabetically, as Well as the World's Average**

Country	Production (t)	Area (ha)	Yield (kg ha <sup>-1</sup> )
Turkey	345,000	243,370	1,418
World	4,827,122	4,524,043	1,067
<b><i>Lupinus</i> spp. (Lupins)</b>			
Australia	625,600	387,400	1,615
Belarus	34,137	13,448	2,538
Germany	40,800	21,400	1,907
Poland	139,802	80,022	1,747
Russia	75,690	50,355	1,503
World	1,014,022	622,427	1,629
<b><i>Phaseolus vulgaris</i> L. (Beans, Dry)</b>			
Brazil	3,294,586	3,185,745	1,034
India	4,110,000	1,000,000	4,110
Mexico	1,273,957	1,680,897	758
Myanmar	4,651,094	3,017,250	1,542
United States	1,311,340	667,170	1,966
World	26,529,580	30,612,842	867
<b><i>Phaseolus vulgaris</i> L. (Beans, Green)</b>			
China	17,017,405	7,890	26,877
India	636,103	225,727	2,818
Indonesia	855,958	113,233	7,559
Thailand	305,002	170,791	1,786
Turkey	638,469	74,000	8,628
World	21,720,588	1,527,613	14,219
<b><i>Pisum sativum</i> L. (Peas, Dry)</b>			
Canada	3,444,800	1,467,000	2,348
China	1,350,000	950,000	1,421
India	600,000	730,000	822
Russia	1,502,845	896,923	1,676
United States	778,140	364,020	2,138
World	11,186,123	6,931,941	1,614
<b><i>Pisum sativum</i> L. (Peas, Green)</b>			
China	10,711,208	1,338,469	8,003
Egypt	184,018	18,471	9,963
France	185,692	24,255	7,656

(Continued)

**TABLE 1.1 (Continued)**  
**The Data on Production, Harvested Area, and Yield of Pulse Crops in the World in 2014, Provided by the Food and Agriculture Organization (FAO) of the United Nations (FAOSTAT 2017); for Each Crop, the Five Greatest Producers Are Given, Listed Alphabetically, as Well as the World's Average**

Country	Production (t)	Area (ha)	Yield (kg ha <sup>-1</sup> )
India	3,868,630	433,560	8,923
United States	329,180	75,920	4,336
World	17,426,421	2,356,340	7,396
<b><i>Vicia faba</i> L. (Broad Beans, Horse Beans, Dry)</b>			
Australia	327,700	152,100	2,155
China	1,428,700	701,600	2,036
Ethiopia	838,944	443,107	1,893
France	278,545	74,884	3,720
Morocco	166,680	190,966	873
World	4,139,972	2,150,905	1,925
<b><i>Vicia</i> spp. Vetches</b>			
Belarus	86,797	30,273	2,867
Ethiopia	251,439	136,884	1,837
Mexico	116,684	97,050	1,202
Russia	127,003	76,495	1,660
Spain	107,000	122,000	877
World	905,002	541,699	1,671
<b><i>Vigna subterranea</i> (L.) Verdc. (Bambara Beans)</b>			
Burkina Faso	56,264	50,428	1,116
Cameroon	38,075	43,516	875
DR Congo	10,741	25,235	426
Mali	22,930	37,702	608
Niger	32,383	70,505	459
World	160,378	227,386	705
<b><i>Vigna unguiculata</i> (L.) Walp. (Cowpeas, Dry)</b>			
Burkina Faso	573,048	1,205,162	475
Cameroon	174,251	209,019	834
Niger	1,593,166	5,325,168	299
Nigeria	2,137,900	3,701,500	578
Tanzania	190,500	197,323	965
World	5,589,216	12,610,956	443

profit (Welch and Graham 1999). For this reason, many pulses are still widely underutilized and neglected, being accompanied with a rapidly decreased use of inexhaustible existing biodiversity in breeding programs (Doyle and Luckow 2003). Finally, the attested great genetic potential of pulses for high-quality and stable yield remains untapped, mainly due to a number of irregularities in applying adequate production technology, despite their remarkable adapting ability to sustainable agriculture and diverse farming systems (Rubiales and Mikić 2015).

From a paleontological point of view, pulse crops are adapted to a remarkably wide range of climates (Table 1.2) and are found in nearly all centers of diversity or

**TABLE 1.2**  
**Centers of Diversity of Some of the Economically Most Important Pulse Crops in the World and Throughout the History, according to One of the Most Traditional Classifications**

<b>Species and Their Subtaxa</b>	<b>Center of Origin</b>
<i>Arachis hypogaea</i> L.	South American', African"
<i>Cajanus cajan</i> (L.) Huth.	African', Hindustani"
<i>Cicer arietinum</i> L.	Near Eastern', Central Asian", Hindustani", Mediterranean"
<i>Vicia ervilia</i> (L.) Willd.	Mediterranean', Near Eastern"
<i>Vicia faba</i> L.	Central Asian', Mediterranean"
<i>Vicia faba</i> L. var. <i>equina</i> St.-Amans	Central Asian', Mediterranean"
<i>Vicia faba</i> L. var. <i>faba</i>	Central Asian', Mediterranean"
<i>Vicia faba</i> L. var. <i>minuta</i> (hort. ex Alef.) Mansf.	Central Asian', Mediterranean"
<i>Glycine max</i> (L.) Merr.	Chinese-Japanese', Near Eastern"
<i>Glycine soja</i> Siebold & Zucc.	Chinese-Japanese
<i>Lablab purpureus</i> (L.) Sweet	African
<i>Lathyrus annuus</i> L.	Mediterranean
<i>Lathyrus cicera</i> L.	Mediterranean
<i>Lathyrus clymenum</i> L.	Mediterranean
<i>Lathyrus hirsutus</i> L.	Mediterranean
<i>Lathyrus ochrus</i> (L.) DC.	Mediterranean
<i>Lathyrus odoratus</i> L.	Mediterranean
<i>Lathyrus sativus</i> L.	Mediterranean', Central Asian"
<i>Lathyrus sylvestris</i> L.	European Siberian
<i>Lathyrus tingitanus</i> L.	Mediterranean
<i>Lathyrus tuberosus</i> L.	European Siberian
<i>Lens culinaris</i> Medik. subsp. <i>culinaris</i>	Near Eastern

(Continued)



**TABLE 1.2 (Continued)**  
**Centers of Diversity of Some of the Economically Most Important Pulse Crops in the World and Throughout the History, according to One of the Most Traditional Classifications**

Species and Their Subtaxa	Center of Origin
<i>Lupinus albus</i> L.	Mediterranean', Near Eastern"
<i>Lupinus angustifolius</i> L.	Mediterranean
<i>Lupinus luteus</i> L.	Mediterranean
<i>Lupinus mutabilis</i> Sweet	South American
<i>Lupinus nootkatensis</i> Donn ex Sims	North American
<i>Lupinus perennis</i> L.	North American
<i>Lupinus polyphyllus</i> Lindl.	North American
<i>Phaseolus acutifolius</i> A. Gray	Central American and Mexican
<i>Phaseolus coccineus</i> L.	Central American and Mexican
<i>Phaseolus lunatus</i> L.	Central American and Mexican', South American'
<i>Phaseolus vulgaris</i> L.	Central American and Mexican', South American"
<i>Pisum sativum</i> L.	Near Eastern', Mediterranean"
<i>Pisum abyssinicum</i> A. Braun	African
<i>Vicia articulata</i> Hornem.	Mediterranean
<i>Vicia benghalensis</i> L.	Mediterranean
<i>Vicia cracca</i> L.	European Siberian
<i>Vicia hirsuta</i> (L.) Gray	European Siberian
<i>Vicia narbonensis</i> L.	Near Eastern', Mediterranean"
<i>Vicia pannonica</i> Crantz	Near Eastern', European Siberian"
<i>Vicia sativa</i> L. subsp. <i>sativa</i>	Near Eastern
<i>Vicia villosa</i> Roth	Near Eastern
<i>Vigna angularis</i> (Willd.) Ohwi & H. Ohashi var. <i>angularis</i>	Chinese-Japanese
<i>Vigna lanceolata</i> Benth.	Australian
<i>Vigna mungo</i> (L.) Hepper var. <i>mungo</i>	Hindustani
<i>Vigna radiata</i> (L.) R. Wilczek var. <i>radiata</i>	Indochinese-Indonesian
<i>Vigna subterranea</i> (L.) Verdc.	African
<i>Vigna umbellata</i> (Thunb.) Ohwi & H. Ohashi	Hindustani', Indochinese-Indonesian"
<i>Vigna unguiculata</i> (L.) Walp.	African', Hindustani"

Source: Zeven, A.C. and Zhukovsky, P.M., *Dictionary of Cultivated Plants and their Centres of Diversity*, Centre for Agricultural Publishing and Documentation, Wageningen, the Netherlands, 1975.

' Primary center.

" Secondary center.

centers of origin (Zeven and Zhukovsky 1975). This is confirmed by the works of the famous Russian and Soviet geneticist and botanist Nikolay I. Vavilov (1887–1943), who was the first to conceive the idea of the centers of origin, and by numerous and mutually different classifications of these centers (Corinto 2014). The most important facts presented in this compiled list comprise the existence of primary and secondary

centers of diversity in many of the grain legume species, which are the subject of this book, equally in more moderate environments, such as between the Near Eastern and Mediterranean centers, and in equatorial regions, including Central American and Mexican, African, South American, Hindustani, or Indochinese-Indonesian centers.

Recently, there began to appear the first attested evidences of grain legumes being a part of the diets of the Neanderthal man, along with cereals (Henry et al. 2011). There are also numerous archaeological findings from various stages of Palaeolithic, ranging from the Mediterranean coastal regions of the Iberian Peninsula, with the remains of the *Lathyrus cicera* L. or *Lathyrus sativus* L. (Aura et al. 2005), to the famous Franchthi cave in Greece, with lentil (Sonnante et al. 2009), and the Busmpira Cave in Ghana, with cowpea (Oas et al. 2015), all dated as back as more than 10,000 years BP (before present). The archaeobotanical data on the presence of domesticated pulse crops is rather rich, constantly updating the timescale of the course of grain legume domestication. The dates assessed for diverse pulses are 8500 BP for peanut (Dillehay et al. 2007), at least 1500 BC for pigeon pea (*Cajanus cajan* [L.] Huth) (Fuller and Harvey 2006), 9300 BP for chickpea (Tanno and Willcox 2008), around 11,000 BC for bitter vetch (Fuller et al. 2012), more than 10,000 BP for faba bean (*Vicia faba* L.), *Lathyrus* spp., lentil, pea, and Narbonne vetch (*Vicia narbonensis* L.) (Caracuta et al. 2017), up to 9000 BP for soybean (Sedivy et al. 2017), around 2800 BP for hyacinth bean (*Lablab purpureus* [L.] Sweet) (Fuller et al. 2004); 7800 BP for South American *Lupinus* species (Jantz and Behling 2012), 9000 BP for the cultivated *Phaseolus* species (Piperno and Dillehay 2008), more than 6500 BC for some *Vicia* species other than bitter vetch and faba bean (Fairbairn et al. 2007) and at least 4500 BP for the South Asian *Vigna* species (García-Granero et al. 2017). All this confirms a rather solid status of pulses and legumes in general as one of the primary domesticated plant families in the world with a persisting and remarkable wealth of genetic resources (Hammer et al. 2015).



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# 2 World's Languages

For the basic purpose of this book and considering its targeted readership, perhaps it would be quite sufficient to say that language is, in the narrowest sense, usually defined as a privileged human ability to communicate in a spoken and written form, while the science studying this phenomenon is called linguistics (Halliday 2003). Among the most continuing debates among linguists are those whether language followed the human evolution (Anderson 2012) or appeared suddenly, caused by some unidentified external stimulus (Chomsky 2000), and if all the human languages descended from one single language (Gell-Mann and Ruhlen 2011) or if that language evolved independently in mutually sundered regions of the world (Campbell and Poser 2008). It is worth mentioning that, relatively recently, it was definitely assessed that Neanderthal man was also able to speak (D'Anastasio et al. 2013).

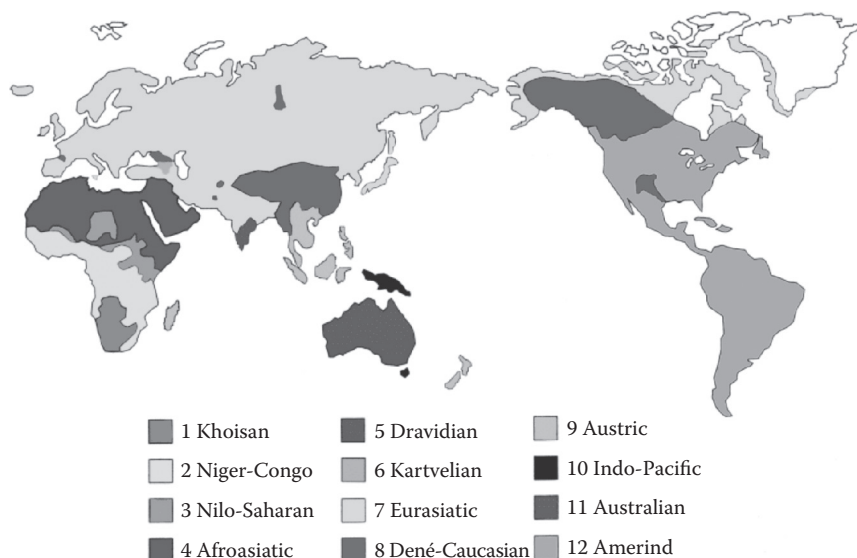
It is estimated that there is between 7100 and 7200 living languages (Ethnologue 2017), with an unknown number of the already extinct ones and an alarmingly increase of those that are inevitably perishing forever, mainly due to globalization. The languages are generally grouped into families, which number significantly varies depending on individual viewpoints, with a certain number of so-called language isolates (Figure 2.1). Each family or isolate is considered a development of what is referred to as a protolanguage (Koerner 1999). In the next several paragraphs, we shall try to give a rather rough and provisional overview of the major global ethnolinguistic families and thus make this topic more familiar to the plant scientific community.

## 2.1 LANGUAGES OF SUB-SAHARAN AFRICA

Although comprising 13 endangered members and less than half a million speakers, such as Khoikhoi and San (syn. Bushmen), the Khoisan languages are remarkably distinctive for having a large number of different click consonants. Preliminary genetic analyses propose that the Khoisan homeland was in East Africa, from where, not knowing when, these peoples migrated far to the south (Hammer et al. 2001).

Encompassing more than 1500 languages, with Fula, Igbo, Shona, Swahili, Yoruba, and Zulu as the most widespread ones, the Niger-Congo is the third richest language family in the world. Its 400 million speakers live in almost the whole territory of Sub-Saharan Africa. The homeland of the Proto-Niger-Congo language, formed at least by 3000 BC, was in western or central Africa (Diamond 1997).

The Nilo-Saharan ethnolinguistic family is supposed to consist of between 50 and 60 million speakers belonging to Nilotic peoples, mostly in Kenya, South Sudan, and Uganda. It has more than 10 subdivisions and about 200 languages. One of the most common viewpoints is that the hypothetical Proto-Nilo-Saharan language existed in eastern Sudan earlier than 10,000 BC (Campbell and Tishkoff 2010).



**FIGURE 2.1** (See color insert.) A simplified map of the major world ethnolinguistic families; *Eurasiatic* encompasses Indo-European, Altaic, Uralic, and Paleosiberian languages, *Dené-Caucasian* comprises Basque, Caucasian, Burushaski, Yenissenian, Sino-Tibetan, and Na-Dené languages, *Austric* denotes Austroasiatic and Austronesian languages and *Indo-Pacific* designates Andamanese, Trans-New Guinea, and Tasmanian languages. (Modified from Starostin, G., *The Tower of Babel, Evolution of Human Language Project*, <http://starling.rinet.ru>. With permission.)

## 2.2 LANGUAGES OF AUSTRALIA AND NEW GUINEA

The Australian Aboriginal and the Trans-New Guinea languages comprise about 350 and more than 500 languages, respectively, including Tiwi and Warlpiri in the first group and Enga and Makasae in the second group. An exceptional internal diversity in both islands may be explained by the fact that they were inhabited by humans about 40,000 years ago, mutually splitting very early and with almost no external contacts (Dixon 2002). So far, it has not been possible to assess the exact time when the proposed Proto-Australian language was spoken, that is, earlier or later than 30,000 years ago (Dixon and Dixon 2011), and the relationships among the Australian Aboriginal languages have not been sufficiently clarified, which is the reason they are currently and merely for practical reasons divided into the Pama-Nyungan and *non-Pama-Nyungan* groups (Bowerman and Atkinson 2012). Merging Kusunda, a language isolate in Nepal, Andamanese, such as Aka-Jeru, non-Austronesian Melanesian, Papuan Aboriginal, and now extinct Tasmanian languages into the hypothetical Indo-Pacific superfamily has been rejected by mainstream linguistics, although it was acknowledged for partially contributing to the establishment of the currently accepted Trans-New Guinea family (Wurm 1982). However, its apologists argue that its extraordinary oldness of up to 55,000 years and the subsequent divisions to the mutually remote places are the main cases of the obscurity of their common origin, which, nevertheless, may be demonstrated on very fundamental levels

(Greenberg 1971, Ruhlen 1994, Whitehouse et al. 2004). The debate *pro et contra* the existence of the Indo-Pacific family and its structure is still going on, addressing not only linguists, but also anthropologists and archaeologists (Clark et al. 2017).

### 2.3 LANGUAGES OF THE AMERICAS

The hypothetical Amerind superfamily is at least 10,000 years old and comprises about 600 indigenous languages of the North, Central and South Americas, except those belonging to Na-Dené and Eskimo-Aleut appearing later, with about 18 million remaining native speakers (Greenberg 1987, Ruhlen 1991, Greenberg 1996). Assessing the position of the Proto-Amerind people and their language remains extremely difficult and is currently not in favor of the mainstream linguistics, which sees nearly each segment of the proposed Amerind superfamily as a language family of its own and with barely sufficient or completely absent evidence to associate it with the others (Campbell 2000).

### 2.4 LANGUAGES OF ASIA AND PACIFIC

Comprising nearly 170 languages, including Khmer and Vietnamese and spoken by almost 100 million persons, the Austroasiatic family is concentrated in Southeast Asia and additionally ranging from India to southern China. One of the many classifications assumes that, by 6300 BC and in the middle Mekong, the Proto-Austroasiatic language was divided into the Munda-Khmer and Nicobarese branches (Peiros 2004, Sidwell and Blench 2011).

The Austronesian ethnolinguistic family consists of more than 1200 languages, including Fijian, Hawaiian, Indonesian, Javanese, Malagasy, Malay, and Filipino (Tagalog), and nearly 400 million speakers from Madagascar, over Maritime Southeast Asia, to the Pacific Ocean. The main branches of Austronesian are Nuclear Austronesian, Puyuma, Rukai, and Tsomu (Ross 2009). The Proto-Austronesian developed in Taiwan, about 6000 BC (Bellwood 1997).

One of the less known East Asian ethnolinguistic families is called Hmong-Mien, nowadays scattered in a large number of communities in China and the countries of Southeast Asia, with a basic division into Hmongic, also known as Miao, and Mienic, or Yao, branches, and with around 8 million speakers (Ethnologue 2017). Its ancestor, the Proto-Hmong-Mien language, is estimated to exist at least 4500 years ago, with a possibility that this distance may be extended for another two millennia (Ratliff 2010).

Judging from the attested linguistic diversity, the Tai-Khadai languages are supposed to originate in the southern Chinese provinces of Guizhou and Hainan, where from the more abundant Tai branch migrated southwards and produced Lao and Thai, the most widely spoken members of this family. Altogether, there are nearly 100 Tai-Kadai languages, with around 100 million speakers around the world (Diller et al. 2008). The internal classification of this ethnolinguistic group is still not assessed to a sufficient extent, with more recent suggestions of its restructuring and renaming into Kra-Daic (Srithawong et al. 2015).

## 2.5 LANGUAGES OF EURASIA

The Basque language is distributed on both sides of the western Pyrenees, with more than 700,000 speakers. Basque and extinct Aquitanian could form the Vasconic family, with a very vague attestation of their protolanguage (Trask 1997). The Basque people may have descended from the Ice Age European hunter-gatherers, who retreated into the mountains after the first farmers had arrived (Ruhlen 2001).

One of the most intriguing languages is Burushaski, spoken by almost 90,000 persons belonging to the Burusho people, concentrated in the isolated valleys of Hunza, Nagar, and Yasin in northernmost Pakistan (Holst 2014). The relationship of these languages to their neighboring ethnolinguistic families has been unresolved, except for the attested cases of certain word exchanges, as well as the course of their origin and development. Among numerous theories, there is one linking them with the Caucasian languages (Bengtson 1997), considering both a kind of language islands of the Palaeolithic Eurasian population in the sea of the Neolithic peoples subsequently surrounding them.

On the northern slopes of the Caucasus, there exist two groups of languages, commonly named Northwest Caucasian and Northeast Caucasian. The first one comprises five languages, such as Abkhaz, Adyghe, and Kabardian, with up to 2 million speakers in total, while the second one consists of nearly 30 languages, such as Avar, Chechen, Ingush or Lezgian, spoken by more than 4 million people. Although the mainstream linguistics considers their mutual relationship still insufficiently explored, there are views that they form a single ethnolinguistic family, known as simply Caucasian (Bengtson 1998). A possible Proto-Caucasian homeland may be the Near East (Wuehrich 2000).

The most renowned representatives of the Na-Dené ethnolinguistic family are the languages of the Dené people, inhabiting northern Canada, and of the Apache and Navajo peoples, living in the southwest regions of the United States. It is supposed that they share the common homeland with the Yeniseian languages somewhere in Beringia (Sicoli and Holton 2014).

With about 1.4 billion speakers, Sino-Tibetan is the second most widely spoken ethnolinguistic family in the world, following Indo-European. It is primarily spoken in East Asia, South Asia, and Southeast Asia. Myanmar (Burmese), Chinese, and Tibetan are the main groups among the more than 400 languages of Sino-Tibetan. During the first half of the twentieth century, the first classifications of Sino-Tibetan were proposed and have been continually debated over because of the large number of languages and still unsatisfactorily determined borders between single clusters (Handel 2008). It is widely accepted that the homeland of Proto-Sino-Tibetan is close to the upper flows of Brahmaputra, Mekong, Salween, and Yangtze (van Driem 1993).

The Yeniseian family, placed around the upper and middle flow of the river Yenisei in central Siberia, comprise only one living language, Ket, with 200 speakers, and several extinct languages. Despite these verily sad facts, these languages are still an objective of numerous linguistic and philological studies. According to one of the supposed timelines, the Proto-Yeniseian was formed as a distinct language at least a few thousand years ago but definitely began to split by 500 BC into

Northern Yenisseian, comprising the Ket language, and Southern Yennisseian. One of the viewpoints regarding their origin and relationship to other families links the Yenisseian languages to Burushaski (van Driem 2001).

## 2.6 LANGUAGES OF EURASIA AND NORTH AFRICA

Afroasiatic, also spelled as Afro-Asiatic and known as Afrasian and Hamito-Semitic, is one of the four African language families. Although there is no consensus regarding its exact division, it basically comprises six main branches, namely Berber, Chadic, Cushitic, Egyptian, Omotic, and Semitic, with Arabic, Amharic, Aramaic, Coptic, Hausa, Hebrew, Oromo, and Somali as some of its members (Diakonoff 1988). Afroasiatic languages are spoken by more than 350 million speakers in North Africa, a part of the Sahel, the Horn of Africa, and the Near East. It is estimated that the Proto-Afroasiatic, the supposed ancestor of all extinct and living Afroasiatic languages (Ehret 1995), existed as early as 10,000 BC or even by 16,000 BC, which makes it older than the majority of the other protolanguages. One of its possible homelands is Levant (Blench 2006), with Natufian culture, and North Africa, with the Halfan culture (Midant-Reynes 1999). Among the extinct Afroasiatic languages, the most renowned are Akkadian, Egyptian, Old Aramaic, and Old Hebrew.

The Altaic ethnolinguistic family is still considered by many as hypothetical and controversial (Georg et al. 1999). It comprises Japonic, Koreanic, Mongolic, Tungusic, Turkic, and perhaps Ainu languages (Blažek 2006), with a total number of about 70 and about 400 million speakers from East Europe to northeast Asia. Our knowledge of the prehistory of the Altaic peoples is still very limited, and it is hard to suggest where exactly their homeland was (Miller 1996). One of the possible locations is southeast Mongolia, southern Manchuria, and North Korea (Janhunen 2010). There are estimates that Proto-Altaic could have been spoken as early as 6000 BC (Kuz'mina 2007).

The Dravidian peoples mainly inhabit the Indian subcontinent, with more than 200 million native speakers of Kannada, Malayalam, Tamil, Telugu, and other between 80 and 90 living languages (Ethnologue 2017). Many archaeologists consider Dravidian much more widely spread before the arrival of the Indo-Aryan tribes, as well as the bearers of the Indus Valley Civilization, lasting roughly from 3300 BC to 1300 BC (Wright 2009). It is estimated that the Proto-Dravidian, conceived in either central or northeast regions of India, was actively spoken during 4th millennium BC and that it began to split about 1000 years later into its Central, Eastern, and Northern branches (Andronov 2003).

Today, the Indo-European ethnolinguistic family has numerous subdivisions (Anthony 2007), such as Balto-Slavic, Germanic, Hellenic, Indo-Iranian, or Italic. Among its about 450 living languages, spoken by almost 3 billion speakers, are English, German, Greek, Hindi, Persian, Russian, and Spanish. This group encompasses almost all the languages of Europe, as well as a large number of those in West, Central, and South Asia. According to one of the most widely accepted opinions, the Kurgan hypothesis, the Proto-Indo-European, conceived in the Pontic-Caspian steppe, began to split between 5000 BC and 4000 BC (Gimbutas et al. 1997). The Indo-European linguistics exists for more than two centuries and, initially based



upon the similarities among Archaic Greek, Latin, and Sanskrit, has produced a considerable number of etymological dictionaries and databases (Mallory 1989). Some extinct Indo-European languages, such as Hittite (Beckman 2011), Old Prussian (Mažiulis 2004), and Tocharian (Winter 1998), have a remarkable significance for comparative linguistics.

Represented with four languages, spoken by between 5 million and 6 million people, mostly in Georgia, the Kartvelian ethnolinguistic family holds a genuine and remarkable position in both historical and modern linguistics (Boeder 2005). Although Kartvelian, also known as Iberian or South Caucasus languages, are geographically approximate to other various distinctive families, no firm attestation with any of them has been found so far. Its homeland is most likely to be identical with its current distribution area, while the Proto-Kartvelian language is supposed to be split into its two main branches, Proto-Georgian-Zan and Laz, by the end of 3rd millennium BC (Klimov 1998).

The Paleosiberian languages, today spoken by somewhat more than 20,000 persons, antedate all other language groups spoken in northeast Siberia and the Russian Far East. Their long-term mutual isolation may explain why they are often viewed not as a single ethnolinguistic family in its strict sense. They are generally divided into Chukotko-Kamchatkan and Eskimo-Aleut families, with few isolates, such as Nivkh (Fortescue 2005).

About 25 million people speak nearly 40 languages attributed to the Uralic family, extending mainly in northern Eurasia and with Estonian, Finnish, and Hungarian as the most numerous (Michalove 2002). It is usually assumed that the homeland of the Uralic peoples is westernmost Siberia or, more precisely, the eastern slopes of the Ural Mountains (Hajdú 1969). There, the Proto-Uralic language was spoken as a single language at least by 5000 BC and then, about 4500 BC, began to primarily divide between Finno-Ugric and Samoyedic (Janhunen 2009). The latter group is critically endangered, with a decreasing number of native speakers and several languages already extinct (Janhunen 1998).

## 2.7 OTHER LANGUAGES

Apart from all the listed language families described earlier, it should be mentioned that there are also numerous kinds of mixed languages (Meakins 2013), usually a consequence of bilingualism, such as creole or pidgin languages, and constructed languages, designed as a tool of international communication (Eco 1995) with Esperanto as its most famous representative.

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# 3 *Arachis* L.

## 3.1 LIST OF TAXA SCIENTIFIC AND POPULAR NAMES

This section brings an overview of the most widely accepted species of the genus *Arachis* L. and their subtaxa, along with their synonyms in various botanical classifications and vernacular names, listed alphabetically and according to the official or most used language designations (ISTA 1982, Krapovickas and Gregory 1994, Rehm 1994, Gledhill 2008, Porcher 2008, The Plant List 2013, Ecocrop 2017, EPPO 2017, Ethnologue 2017, IBIS 2017, ILDIS 2017, Logos 2017, NPGS 2017, Wikipedia 2017, Wiktionary 2017).

Our knowledge on the extinct and modern words for peanut in the Native American languages is rather limited, since their official status is recognized mainly as vulnerable or critically endangered (Zepeda and Hill 1991, Moseley 2010). The number of active speakers of nearly all native languages of the Americas, especially in the north, is rapidly decreasing every day (Crystal 2000). However, we are able to find out certain and academically accurate knowledge on the lexicology relating to *Arachis* from the available resources, especially early lexicons and dictionaries, conversation books, folk tales and other forms of popular literature and etymological studies (Powell 1891, Boas 1911, Shapiro 1987, Fabre 2005, 2016).

- *Arachis appressipila* Krapov. & W. C. Greg.

*English*: flat-haired peanut

*Portuguese (Brazil)*: amendoim-bravo

- *Arachis archeri* Krapov. & W. C. Greg.

*Synonyms*: *Arachis diogoi* sensu auct.

*English*: Archer's pea

*Portuguese (Brazil)*: amendoim-do-campo-limpo

- *Arachis batizocoi* Krapov. & W. C. Greg.

*English*: Batizoco's peanut; forest peanut

*Spanish*: manduví; maní silvestre

- *Arachis duranensis* Krapov. & W. C. Greg.

*Synonyms*: *Arachis argentinensis* Speg.; *Arachis spegazzinii* M. Greg. & W. C. Greg.

*English*: wild peanut; yellow peanut

*Spanish*: sacha maní

- *Arachis glabrata* Benth. var. *glabrata*

*Chinese*: duōniánshēng huāshēng

*English*: cocos; creeping forage peanut; golden glory; ornamental peanut grass; perennial forage peanut; perennial peanut; rhizoma peanut; rhizoma perennial peanut

*Portuguese*: amendoim-bravo; amendoim-forrageiro; mendoim-do-campo-baixo

*Spanish*: maní perenne

*Vietnamese*: củ lạc; lạc tiên; lạc trường niên hay còn gọi

- *Arachis hypogaea* L. (Table 3.1)

*Synonyms*: *Arachis africana* Lour.; *Arachis americana* Ten.; *Arachis asiatica*

Lour.; *Arachis hypogaea* L. subsp. *oleifera* A. Chev.; *Arachis nambyquarae*

Hoehne; *Arachis rasteiro* A. Chev.; *Arachidna hypogaea* (L.) Moench

- *Arachis hypogaea* L. subsp. *fastigiata* Waldron var. *aequatoriana* Krapov. & W. C. Greg.

*English*: equatorial peanut

*Spanish*: huasquillo

*Spanish (Ecuador)*: zaruma

- *Arachis hypogaea* L. subsp. *fastigiata* Waldron var. *fastigiata* (Waldron) Krapov. & W. C. Greg.

*English*: Valencia peanut

- *Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*

*English*: Virginia peanut

- *Arachis hypogaea* L. subsp. *fastigiata* Waldron var. *vulgaris* Harz

*English*: Spanish peanut

- *Arachis kretschmeri* Krapov. & W. C. Greg.

*English*: Pantanal peanut

- *Arachis kuhlmannii* Krapov. & W. C. Greg.

*English*: Kuhlmann's peanut

*Portuguese (Brazil)*: Amendoim-bravo

- *Arachis macedoi* Krapov. & W. C. Greg.

*English*: cold peanut; Macedo's peanut

*Portuguese (Brazil)*: amendoim do resfriado

- *Arachis major* Krapov. & W. C. Greg.

*Synonyms*: *Arachis diogoi* Hoehne subsp. *major* Hoehne

*English*: big peanut

*Spanish*: amendoim de Aquidauana

- *Arachis pintoii* Krapov. & W. C. Greg.

*English*: forage peanut; pinto peanut

*Portuguese (Brazil)*: amendoim-forrageiro

*Spanish*: maní forrajero perenne; maní perenne

- *Arachis pusilla* Benth.

*English*: petty peanut

*Portuguese (Brazil)*: amendoim-de-caracará

- *Arachis repens* Handro

*English*: crawling peanut; creeping peanut

*Portuguese (Brazil)*: amendoim-rasteiro

*Spanish (Colombia)*: tepe colombiano

- *Arachis sylvestris* (A. Chev.) A. Chev.

*Synonyms*: *Arachis hypogaea* L. subsp. *sylvestris* A. Chev.

*English*: forest peanut; pig peanut

*Portuguese (Brazil):* amendoim do porco; mandubi do porco; mundubi; mundubi do joazeiro; mundubim bravo

- *Arachis tuberosa* Benth.

*English:* tuberous peanut

*Portuguese (Brazil):* amendoim do tubéras

- *Arachis veigae* S. H. Santana & Valls

*English:* Veiga's peanut

*Portuguese:* mundubi; mundubi-do-Joazeiro

- *Arachis villosulicarpa* Hoehne

*English:* hairy-podded peanut

*Portuguese (Brazil):* amendoim-bravo; wi-ki-rin-gui

- *Arachis williamsii* Krapov. & W. C. Greg.

*English:* Williams' peanut

*Spanish:* manicillo

### 3.2 ORIGIN OF SCIENTIFIC AND POPULAR TAXA NAMES

The scientific name of the genus *Arachis* L. (Linnaeus 1753, 1758) is based upon the Ancient Greek word *áarakos*, with its variations *áarako-s* and *áarak-s* (Pokorny 1959). It is considered denoting a weedy grain legume species growing in the lentil (*Lens culinaris* Medik.) crop, most likely annual vetchling (*Lathyrus annuus* L.) or, alternatively, some other semi-domesticated and occasionally cultivated leguminous plant with similar growth habit (Nikolayev 2012). According to the historical linguistic analysis, this Ancient Greek word has its ultimate origin in the attested Proto-Indo-European root *\*arenko-*, *\*arn k(°)-*, meaning both a kind of cereal (Pokorny 1959) and a leguminous plant in general (Nikolayev 2012). This root also gave the Latin *arinca*, denoting spelt (*Triticum aestivum* L. subsp. *spelta* [L.] Thell.) or *Gallarium propria*, an undefined plant species mentioned by Pliny the Elder (Pokorny 1959). In modern Indo-European languages, the Ancient Greek *áarakos* survived in the contemporary Greek *arakás*, meaning *pea* (*Pisum sativum* L.), and in several Indo-Aryan languages, at least in the Lakhimpur Awadhi *arrhī*, the Hindi *arhar* and, still speculatively, the Sanskrit *āḍhakiṛ* and the Suśruta Prakrit *āḍhāi* (Turner 1962–1966, Southworth 2004), in all of which it means *pigeon pea* (*Cajanus cajan* [L.] Huth) and with no attested mediating Proto-Indo-Aryan root yet. At any rate, the scientific name for the genus, *Arachis peanut*, has entered into many languages of diverse ethnolinguistic families, such as Belarusian, Cebuano, or Turkmen, as well as constructed languages, such as Esperanto, Interlingua, and Volapük (Table 3.1).

Among the attested roots of the hypothetical Proto-Amerind language, there is one that designs seed in general, namely *\*ica* (Greenberg and Ruhlen 2007). This Proto-Amerind root gave the words with the same meaning in many extinct and living languages and dialects in North, Central, and South Americas, such as the Blackfoot *kiníínoko*, the Mohawk *enhnekeri*, the Cheyenne *ugata*, the Nahuatl *inach*, the Q'anjob'al *inat*, the Xavante 'ĩ-jë, the Akwáva *a'yni*, or the Kawésqar (*ye*)*c'oy*. The root *\*ica* could have also produced the words denoting not only seed, but specifically peanut, especially in the languages that are geographically close

**TABLE 3.1**  
**Popular Names Denoting *Arachis hypogaea* L. in Some World Languages and Dialects**

Language/Dialect	Name
Abenaki	skibô+k
Afrikaans	apeneutjie; grondboontjie
Aka-Jeru	uta
Albanian	badiava; kikirik
Amharic	ocholonī
Antillean Creole	pistach
Arabic	fawall sudāni
Aragonese	cacagüet; calcagüet; cascagüet
Armenian	getnanush
Asturian	cacagüesa; cacagüeses
Atikamekw	pakan
Aymara	chuqupa
Azerbaijani	yerfindği
Badîni	fstaq j'abid
Basque	kakahuete
Belarusian	arachis
Bengali	cīnābādāma; māṭa-kalāi
Berber	akawkaw
Bislama	pinat
Bosniak	kikiriki
Breton	kakaouetenn; kraoñenn-varmouz
Bulgarian	fūstūk
Catalan	cacao; cacauet
Cebuano	arachis
Cherokee	tuya aniladisgi
Chinese (Cantonese)	huāshēng
Chinese (Hakka)	fān-theu
Chinese (Mandarin)	chang sheng guo; huāshēng; luo hua sheng
Choctaw	bahpo
Cree	pākân
Croatian	kikiriki
Czech	burský oříšek; podzemnice olejná
Danish	jordnød
Dari	badam zameeni
Dené	dlíeni
Dhao	kabui ae lèu
Dutch	apennoot; grondnoot; olienoot; pinda aardnoot
Dyula	tígba
Enga	kalípu
English	earth-nut; goober; goober bean; goober pea; gouber pea; ground-pea; groundnut; monkeynut; peanut; pindar nut

(Continued)

TABLE 3.1 (Continued)

Popular Names Denoting *Arachis hypogaea* L. in Some World Languages and Dialects

Language/Dialect	Name
Esperanto	arakido; ternukso
Estonian	arahhis; harilik maapähkel; hiina pähkel
Faroese	iarðnøt
Ferraresi	bagga
Fijian	pinati
Filipino	mani
Finnish	maapähkinä
French	arachide; cacahuèt; cacahuète; pistache de terre
French (Canada)	pinotte
Frisian	apenút
Friulian	bagjigji; pistaç di tiere
Galician	cacahuete
Genoese	pistaccio
Georgian	mitsis t' khili
German	aschanti; Arachis; Erdmandel; Erdnuss; Kamerunnuss
Greek	arahída; arápiko fystíki
Greek (Cyprus)	foustoukoúdi
Guarani	manduvi
Gullah	guba
Hausa	gyaɗa
Hawaiian	pineki
Hebrew	'gvz 'dmh
Hindi	cīnā-badāma; moongaphalee; mosambī caṇā; mumphali; mungphali
Hmong	txiv lws suav
Hungarian	amerikaimogyoró; földimogyoró
Icelandic	jarðhneta
Igbo	ahuekere; asiboko; opupa
Ilocano	maní
Indonesian	kacang tanah
Interlingua	arachide
Irish	phis talún
Italian	arachide; aracide; bagigi; caccaetti; cecini; nocciolina; noccioline americane; scachetti; spagnolette
Japanese	nankin-mame; piinatsu; rakkasei
Javanese	kacang brol
Kalaallisut	jordnøddi
Kannada	kaḍalēkāyi
Kapampangan	mani
Kazakh	arahis; jañğaqı; jañğaqı qıtai
Khmer	santek dei
Kimbundu	nguba

(Continued)