Analele Ştiinţifice ale Universităţii „Al. I. Cuza” Iaşi
s. II a. Biologie vegetală, 2014, **60**, 2: 63-75
http://www.bio.uaic.ro/publicatii/anale_vegetala/anale_veg_index.html
ISSN: 1223-6578, E-ISSN: 2247-2711

# USE AND POSSIBLE SIGNIFICANCE OF TWO SPECIES OF BORAGINACEAE FAMILY IN PREHISTORY – A REVIEW OF THE CUCUTENI CULTURE FINDS

Loredana SOLCAN[1], Mihaela DANU[2]*, Irina IRIMIA[2], George BODI[3]

**Abstract:** Our paper aims at presenting and discussing the discovery of *Lithospermum officinale* L. and *Buglossoides purpurocaerulea* (L.) I. M. Johnston seeds deposits from archaeological contexts. The nutlets deposits that we discuss here were found in three prehistoric sites belonging to the Cucuteni Culture ($V^{th}$-$IV^{th}$ millennia CAL. B.C.): Izvoare-Piatra Neamț (Neamț County), Poduri-*Dealul Ghindaru* (Bacău County), Frumușica (Neamț County). The two species are used for their anti-inflammatory, contraceptive or antitoxic properties. However, an in-depth contextual analysis of the various discovery contexts belonging to the Cucuteni culture, leading to a differentiation between the known deposits, allows us to explore different meanings of this category of archaeological finds, such as display of social status or involvement in magical/healing rituals.
**Keywords**: *Lithospermum officinale* L., *Buglossoides purpurocaerulea* (L.) I. M. Johnston, prehistory, Cucuteni culture.

## Introduction

The archaeobotanical studies may offer a series of data referring to the different activities practised by the prehistoric communities. The discovery and identification of macro-remains from the spontaneous flora allow the extraction of information concerning the exploitation of particular plant species and add useful elements to the reconstitution of the environment, climate, types of soils etc. Last, but not least, the same category of finds allows the study of some aspects connected to different rituals and, why not, medicinal practices (Ferdière, 2010).

Our paper aims at discussing the discoveries of *Lithospermum officinale* L. and *Buglossoides purpurocaerulea* (L.) I. M. Johnston (*Lithospermum purpurocaeruleum* L.) remains identified in three prehistoric sites, attributed to the Cucuteni culture (Romania), from Izvoare-Piatra Neamț (Neamț County), Poduri-*Dealul Ghindaru* (Bacău County) and Bodești/Frumușica (Neamț County). The Cucuteni culture is part of the great Cucuteni-Ariușd-Trypolie cultural complex, which expanded over the south-east of Transylvania, Moldova, Republic of Moldova and the west of Ukraine to the Dnieper River, covering at the peak of its development a surface of over 350,000 sq. km; from the point of view of chronology it belongs to the Chalcolithic of Central and South-East Europe and it evolves during $V^{th}$-$IV^{th}$ millennia CAL B.C. It develops through three phases of evolution (Cucuteni A, AB and B) approximately between 4524/4500 and 3350 BC. The Cucuteni-Ariușd-Trypolie cultural complex evolves on the same chronological level with other well known

[1] Institute of Archaeology - Romanian Academy, Iași Branch, ”Moldova” National Museum Complex Iași, Romania.
[2] ”Alexandru Ioan Cuza” University of Iasi, Faculty of Biology, Romania; danum2007@yahoo.com (corresponding author*).
[3] Institute of Archaeology - Romanian Academy, Iași Branch, Romania.

All authors contributed equally to this work.

prehistoric phenomena, such as the Gumelnița-Karanovo VI-Kodjadermen cultural complex to its south and Petreşti and Tiszapolgár-Bodrogkeresztúr to its west.

Through this contribution we wish to debate new modalities of interpretation of the archaeobotanical material (*Lithospermum* and *Buglossoides* nutlets) discovered in the above mentioned archaeological sites.

## *Lithospermum officinale* L. and *Buglossoides purpurocaerulea* (L.) I. M. Johnston - valuable natural resources

Chorological and phytocoenological studies indicate these two spontaneous species of Boraginaceae family being commons in actual vegetation of Neamţ County (Mititelu et al., 1978; Chifu et al., 1987) and Bacău County (Mititelu et al., 1968; Barabaş, 1974; Mititelu and Barabaş, 1978; Mititelu et al., 1994).

### 1. Physical and ecological characteristics

*Lithospermum officinale* L. (Boraginaceae family) is a perennial herb, with a stem of 20-100 cm, solitary to many, from a stout rhizome, erect, scabrid-pubescent, and much-branched above. Leaves are up to 10 x 2 cm, lanceolate to ovate-lanceolate, sometimes linear-lanceolate, and very pointed. The middle and upper sessile discolours, scabrid-pubescent mainly above. Cymes are fairly dense in flower. The calyx-lobes are oblong-linear, obtuse. The corolla is (3-) 4-6 mm, yellowish or greenish-white; the cylindrical tube is about as long as the calyx. The nutlets are 2.7-4 mm, ovoid, obtuse or subacute, rounded dorsally, obtusely keeled ventrally (Fernandes, 1972) (Pl. 1/a).

It is a heliophile species, mesotherm to temperate-termophilic, xeromesophile-mesophile, and it can be frequently met on lake and river banks, in parks, brushwoods and the edge of woods, both on cultivated and ruderal terrains, from the steppe area up to the altitude of the beech (Grinţescu, 1960; Sârbu et al., 2013).

*Buglossoides purpurocaerulea* (L.) I. M. Johnston (Boraginaceae family) is a perennial herb, with a flowering stem of 15-60 (-70) cm, arising from a rhizome, erect, unbranched, with appressed hairs below and more patent hairs above. Leaves are 3.5-8 x 0.7-1.05 cm, lanceolate to narrowly elliptical, very pointed. Cymes are 2-3 with a calyx 6-8.5 mm; lobes are linear, acute, and setose. The corolla is (12-) 14-19 mm, at first reddish-purple, then bright blue. Filaments are inserted 5-8 mm above the base of the corolla-tube. The style is 6.5-9 mm. The nutlets are 3.5-5 x 3-3.5 mm, ovoid-globose, convex dorsally, obtusely keeled ventrally, white, smooth and shining (Valetine, 1972) (Pl. 1/b).

It is a mesotherm species, xeromesophile, slightly acidic – neuthrophile, and it grows frequently in forests, at forest edges, brushwoods, from the plain up to the altitude of the durmast (Grinţescu, 1960; Sârbu et al., 2013).

### 2. Biotherapeutic potentials and other uses

The specialty literature mentions the use of these two species especially for therapeutic purposes. Thus, the aerial parts and the seeds of *Lithospermum officinale* are used internally for their diuretic (Bârcă, 1987), antigout, antitoxic, antiovulatory and febrifuge properties, and also for their anti-inflammatory action on the urinary tract and the

stimulation of the digestion. The seed can be externally used for the elimination of foreign objects from the eyes (Pârvu, 2000).

The active principles of the *Buglossoides purpurocaerulea* recommend it for the attenuation or elimination of acute bronchial inflammation, microbial or viroid, and expectoration facilitation (Bârcă, 1987; Mohan, 2009).

Besides the therapeutic properties of the aerial parts, the specialty literature mentions the use of *Lithospermum officinale* roots for the colouring of fibres (Pârvu, 2000) and to obtain colours for make up (Tiță, 2003).

## Archaeological discoveries and their interpretation

In the Cucuteni area there are known at the moment three archaeological situations where the presence of *Buglossoides purpurocaerulea* has been observed and are attributed both to the A phase of the culture (two finds from the settlement of Izvoare) and to the B phase (Bodești/Frumușica). There is also one instance where nutlets of *Lithospermum officinale* (Poduri-*Dealul Ghindaru*) have been identified, in a phase A context (see Table 1) (Pl. 2). The above mentioned discoveries may put forward, in the opinion of some researchers, a possible magical signification (Marinescu-Bîlcu and Cârciumaru, 1992; Monah and Monah, 2008) and, in our opinion, they may be grouped into two categories:

**a.** Discoveries of perforated nutlets – used, most probably, to make beads/necklaces/adornments;

**b.** Discoveries of unperforated nutlets/ritual depositions.

### a. Perforated nutlets discoveries

In the first category we may include one of the finds from **Izvoare** (Neamț County) (Marinescu-Bîlcu and Cârciumaru, 1992; Cârciumaru, 1996). A number of 4,000 *Buglossoides purpurocaerulea* perforated nutlets has been identified during the 1988 excavations, together with red deer canines imitations and clay beads, which formed, in the opinion of the discoverers, one combined necklace (Marinescu-Bîlcu and Cârciumaru, 1992) (Pl. 3). The fact that the items composing the necklace from Izvoare were whole and deposited in a pot inside a dwelling, makes us believe that they were kept (eventually during the time in-between two ceremonies during which they were showed off) and that they were not out of use. The discoverers also advance the possibility that the necklace may have belonged to the witch doctor of the settlement (Marinescu-Bîlcu and Cârciumaru, 1992). On the other hand, a series of 4,000 unperforated nutlets, present within the same pot, may suggest that the necklace was unfinished. From a general perspective, it is possible that the adornments held only partially a decorative utility, since these objects may as well accomplish a symbolic and/or social function besides their evident aesthetic role (Taborin, 2004). In the specific case of beads, the multitude of functions these objects have, is exemplified by their use by African populations, where they simultaneously fulfil social, apotropaic and decorative functions (Martin, 2009).

The presence of necklaces formed of *Buglossoides purpurocaerulea* nutlets is noted in other cultural areas as well (Marinescu-Bîlcu and Cârciumaru, 1992), but, unfortunately, the existent archaeological and ethnographical data do not allow us the exact reconstitution

of the significance of this type of artefacts. We can however make a series of observations which may, in a certain degree, take us closer to their partial meaning:

- Due to their very small dimensions, the harvesting of *Buglossoides purpurocaerulea* nutlets is difficult (Monah and Monah, 2008), and their perforation represents a process requiring increased attention and, because of the worked quantities, a long fabrication time (Pauc et al., 2005). Similarly, the red deer canine imitations required a rather long manufacture time (Choyke, 2001). All these artefacts might be integrated in what B. Hayden calls "prestige technologies". According to him "The purpose of creating prestige artifacts is not to perform a practical task, but to display wealth, success, and power. The purpose is to solve a social problem or accomplish a social task […]" (Hayden, 1998).

- On another level, the red deer canines come from an important wild animal and are not widely accessible (Choyke, 2001). Their presence, as well as of their imitations, within important deposits – such as Brad, Ariușd, Hăbășești or Cărbuna (Monah, 2003) – indicates the social importance of these artefacts, which communicate the social status of the owner. On the other hand, we could be dealing with the property of an entire community, formed through gradual accumulation (Marinescu-Bîlcu and Cârciumaru, 1992). The problem of the red deer canines imitations has been amply discussed in the specialty literature, especially at international level (Choyke, 2001, 2008). Following the interpretations offered by A. Choyke, we believe that in the case of Izvoare we may be dealing with the creation of objects/imitations that contained the same information as the originals, but it may also be possible that the imitations, through their artificiality, contain additional meaning (Choyke, 2001), which, unfortunately, cannot be totally discerned. We could assume a relatively similar situation for the clay beads found inside the pot. These probably were imitations of the *Buglossoides* perforated nutlets (Marinescu-Bîlcu and Cârciumaru, 1992; Cârciumaru, 1996). The clay beads, approximately the same size as the nutlets, were not burned and thus kept a greyish colour (Marinescu-Bîlcu and Cârciumaru, 1992), similar to that of the originals. This behaviour may be related to the attempt to dominate the nature through imitation, be it with the purpose of obtaining desirable results in quotidian actions (Lévi-Strauss, 1966), or be it just to find explanations concerning phenomena from the environment (Lévi-Strauss, 1966, 1987).

- Another problem which deserves attention is raised by the association of the different raw materials used for the various elements of the necklace: perforated *Buglossoides purpurocaerulea* nutlets, bone for the manufacture of the red deer canines imitations, and the clay for the modelling of the clay beads. The association between *Buglossoides purpurocaerulea* nutlets and clay is also present in the case of the Ulmeni necklace, Călărași County (Gumelnița culture) (Cârciumaru, 1985), as well as in the case of the necklace from Vlădiceasa, Călărași County (Gumelnița culture), where we also have beads of bones (Șerbănescu, 1987). Regrettably, at this point we cannot find a convincing explanation for the association of these raw materials, although it definitely held a significance. However, an aspect that we will hold into our attention concerns their colour, especially since the importance of this problematic gains momentum (Chapman, 2007). We may thus assume that the choice of the above mentioned raw materials could be explained through their white colour, fact already stressed for other cultural areas (Vitezović, 2011).

**b. Discoveries of unperforated nutlets**

In our opinion, within the second category we can include the discoveries from **Izvoare** from 1984 (Cârciumaru and Monah, 1985-1986, 1987; Cârciumaru, 1996) and from **Bodești-Frumușica** (Cârciumaru and Monah, 1985, 1985-1986; Cârciumaru, 1996) (both containing *Buglossoides purpurocaerulea* nutlets), within which unperforated nutlets predominate (see Table 1). The context of discovery, similar to the one previously discussed, could indicate the possibility that these may still have been in use at the moment of the destruction through fire of the dwellings. Likewise, the storage of the nutlets within pots indicates that these were goods with a certain significance, and it is possible that they were kept for future perforation and necklace manufacture[4], but, in the same time, we cannot exclude the possibility that they were deposited for magical/medicinal use.

A special situation is represented by the discovery from **Poduri-*Dealul Ghindaru*.** The presence of approximately 22,400 nutlets of *Lithospermum officinale* in a goblet, which was deposited within a larger pot, in a pit (see Table 1), makes us assert (just as the discoverers of the complex) that these were ritually deposited (Monah and Monah, 2008) (Pl. 4). This gesture may symbolize the need to extract the nutlets from the life of the community with the purpose of destroying them or, on the contrary, to preserve them (Hamon and Quilliec, 2008). This situation stands out clearly from the two other already mentioned cases, where the context of discovery suggests the continuation of the accumulation process.

Another important observation is constituted by the fact that the deposit from Poduri is the only one in the Cucuteni culture area formed from *Lithospermum officinale* nutlets. This observation, corroborated with the affirmation that "*Lithospermum purpureo-caeruleum* is a species better suited for perforation to the purpose of manufacturing a necklace" (Marinescu-Bîlcu and Cârciumaru, 1992), and also connected to the peculiarity of the discovery context, may indicate that these nutlets were not intended for the manufacture of a necklace. Although the association of the *Lithospermum officinale* fruits with the rest of the artefacts from the pot (see Table 1) does not offer, for the moment, any additional information (Monah and Monah, 2008), still, the presence of red ochre indicates the intention of "marking" this deposit as one with a special meaning.

## Considerations

Discoveries of *Lithospermum* sp. are also present in other cultural areas, more or less distant – both spatially and temporally – from the Cucutenian one. These can be found on the todays' territory of Romania, in the area of the Gumelnița culture (Cârciumaru, 1985; Șerbănescu, 1987), in Bulgaria – in Neolithic environments at Kodja Dermen and Sadovetz, or in the Bronze Age levels from Karanovo (Marinescu-Bîlcu and Cârciumaru, 1992) – but also in the Neolithic from Switzerland, Spain (Pauc et al., 2004, 2005) and Poland (Baczynska and Litynska-Zajac, 2005). These finds bear testimony to the aesthetic role of

[4] At Izvoare three of the nutlets had perforations at both ends (Cârciumaru and Monah, 1985-1986, 1987; Cârciumaru, 1996), and for Frumușica the information are somewhat contradictory: initially, there are no mentions on the presence of perforated nutlets (Cârciumaru and Monah, 1985, 1985-1986; Cârciumaru, 1996), but at a later time the presence of perforated nutlets is affirmed (Cârciumaru et al., 2004).

these artefacts, parts of necklaces and other adornments, with multiple and hard to decipher meanings, connected, probably, to social as well as religious problems. The decorative value of these objects is also proved by the discoveries from the Asian continent, where the *Lithospermum officinale* nutlets were used for the decoration of wooden tubs identified in a funerary context and interpreted as luxury items (Jiang et al., 2007). Another discovery, this time from Central America, strengthens the signification of *Lithospermum* nutlets as markers of the social status, these being used for the decoration of a tapestry discovered in a Maya tomb belonging to a high ranking person (http://www.inah.gob.mx/diversidad /index.php?view=article&id=102%3Ala-cruz-parlante&format=pdf&option=com_ content&Itemid=46).

On the other hand, another archaeological find proves the existent knowledge on the medicinal properties of the plant since prehistoric times. Thus, in Poland, in a funerary context attributed to the Bronze Age, a cataplasm made from tar and *Lithospermum officinale* nutlets has been identified (Baczyńska and Lityńska-Zając, 2005). The authors of the discovery note that it is possible that the *Lithospermum* nutlets may have been used as a sympathetic agent or even as magic additive (Baczyńska and Lityńska-Zając, 2005).

For the Cucuteni culture area, the finds consisting of perforated or unperforated nutlets lead us to assume two possible different uses of the *Lithospermum* sp. fruits, although the existence of common points is possible: necklaces used in different special social circumstances which might have required their display, or accumulations of a magic/therapeutic material. As it has already been stressed out in the specialty literature, it is possible that the *Lithospermum* sp. nutlets were considered to hold magic properties and, for the same reason, were used in the manufacture of necklaces (Monah and Monah, 2008).

The interpretation of *Lithospermum* nutlets deposits as accumulations of a material holding magic properties may be sustained by a paragraph from *Natural History* where Pliny notes: „*It is indisputable that a drachma by weight of these jewels taken in white wine breaks up and brings away stone and cures strangury. [...] its very appearance is such that at once by a glance, even without being told, people can become aware of this property*." This fragment allows us to create a bridge between the discoveries of this type and the definition of homeopathic magic funded on the principles of associations of ideas based on similarity (Frazer, 2009).

The critique and elaboration of Frazer's ideas by Durkheim, concerning the difference between magic, a concept centred on the individual, and religion, as a social phenomenon (Durkheim, 1995), opens us the path to read, in future works, the deposits of unperforated nutlets as probable gestures of the community for itself, meant to ensure the existence of a provision of nutlets to be used in possible healing rituals. In the same time, the necklaces may be regarded as manifestations of the special social status of the individual or community owning them. Arguments for such an approach may be constituted by the technical difficulties raised by the harvesting and perforation of large quantities of *Buglossoides purpurocaerulea* nutlets, on one hand, and by the relatively large volume of labour required by the manufacture of red deer canines imitations, on the other. In the same time, the association between natural products and their imitations may be interpreted as concrete expressions of the eternal conflict between nature and culture (Lévi-Strauss, 1966, 1968) and may be read as a material assertion of the owners' ability to subdue the natural forces.

## Conclusions

The wide territory of their presence, as well as the different possible uses of *Lithospermum/Buglossoides* nutlets force us to try, in the future, a more detailed discussion, focused on various categories of discoveries, defined on the basis of their possible use: "ingredients" used in different therapies or rituals, beads or "buttons" applied on various textile materials, or decorative elements for objects of practical/ritual utility.

From the point of view of the therapeutic uses of these plant species, we believe that, in the case of the Cucuteni discoveries, we are, probably, dealing with a combination of magical/religious and empiric healing elements.

***Acknowledgement***

For Loredana Solcan and George Bodi this work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS –UEFISCDI, project number PN-II-ID-PCE-2011-3-0885. The authors would like to thank the anonymous reviewers for their valuable comments and suggestions to improve the quality of the paper.

## REFERENCES

Baczyńska, B., Lityńska-Zając, M., 2005. Application of *Lithospermum officinale* L. in early Bronze Age medicine. Veget. Hist. Archaeobot. **14**: 77-80.

Barabaş, N., 1974. Contribuţii la studiul vegetaţiei din bazinul Tazlăului. St. Com. Muz. Şt. Nat. Bacău. **7**: 93-178.

Bârcă, C.V., 1987. *Lithospermum-Quercetum moldavicum* – sursa pentru flora medicinală. Culeg. de studii şi artic. de Biol., Grăd. Bot. Iaşi. **3**: 254-256.

Cârciumaru, M., 1985. Le collier de semences d'Ulmeni (culture de Gumelniţa). Dacia. Revue d'archéologie et d'histoire ancienne, Nouvelle Série. **XXIX**, 1-2: 125-127.

Cârciumaru, M., 1996. *Paleoetnobotanica*. Edit. Helios, Iaşi.

Cârciumaru, M., Monah, F., 1985. Reconsiderări asupra determinărilor de seminţe carbonizate de la Frumuşica şi Valea Lupului. Studii şi cercetări de Istorie Veche şi Arheologie. **36**, 4: 351-352.

Cârciumaru, M., Monah, F., 1985-1986. Determinări paleobotanice pentru eneoliticul din Moldova. Acta Musei Meridionalis. **VII-VIII**: 57-64.

Cârciumaru, M., Monah, F., 1987. *Déterminations paléobotaniques pour les cultures Précucuteni et Cucuteni*, in: Petrescu-Dîmboviţa, M., Ursulescu, N., Monah, D., Chirica, V. (Eds.). *La civilisation de Cucuteni en contexte européen*, BAI I, Iaşi: 167-174.

Cârciumaru, M., Pleşa, M., Mărgărit, M., 2004. *Omul şi plantele. Manual de analiză carpologică*. Edit. Cetatea de Scaun, Târgovişte.

Chapman, J., 2007. *The Elaboration of an Aesthetic of Brilliance and Colour in the Climax Copper Age*, in: Lang, F., Reinholdt, C., Weilhartner, J. (Eds.). *Archäologische Forschungen zwischen Nil und Istros. Festschrift für Stefan Hiller zum 65. Geburtstag*. Edit. Phoibos, Viena: 65-74.

Chifu, T., Mititelu, D., Dăscălescu, D., 1987. Flora şi vegetaţia judeţului Neamţ. Mem. Sect. Şt. Acad. **10**, 1: 281-302.

Choyke, A., 2001. *Late Neolithic red deer canine beads and their imitations*, in: Choyke, A., Bartosiewicz, L. (Eds.). *Crafting bone: Skeletal Technologies through time and space*, BAR Int. Ser. 937. Edit. Archaeopress, Oxford: 251-261.

Choyke, A., 2008. *Shifting meaning and value through imitation in the European Late Neolithic*, in: Biehl, P., Rassamakin, Y. (Eds.). *Import and Imitation in Archaeology*. Edit. Beier&Beran, Langenweißbach: 5-21.

Durkheim, E., 1995. *Formele elementare ale vieţii religioase*. Edit. Polirom, Iaşi.

Ferdière, A. (coord.), 2010. *Arheobotanica*, volum îngrijit de L. Bejenaru, F. Monah, D. Monah. Edit. Univ. "Al. I. Cuza", Iaşi.

Fernandes, R., 1972. *Lithospermum* L., in: Tutin, T.G. (Ed.). *Flora Europaea*, **III.** Edit. Cambridge University Press, Cambridge: 86.

Frazer, J.G., 2009. *The Golden Bough. A Study of Magic and Religion*. Edit. The Floating Press, Auckland.

Grinţescu, I., 1960. *Lithospermum* L., in: Săvulescu, T. (Ed.). *Flora R.S.R.*, **VII**. Edit. Acad. R.P.R., Bucureşti: 206-214.

Hamon, C., Quilliec, B., 2008. *Hoards from the Neolithic to the Metal Ages: technical and codified practices. Introduction*, in: Hamon, C., Quilliec, B. (Eds.). *Hoards from the Neolithic to the Metal Ages: technical and codified practices*, BAR Int. Ser. 1758. Edit. Archaeopress, Oxford: 1-3.

Hayden, B., 1998. Practical and Prestige Technologies: the Evolution of Material Systems. Journal of Archaeological Method and Theory. **5**, 1: 1-55.

Jiang, H.-E., Li, X., Liu, C.-J., Wang, Y.-F., Li, C.-S., 2007. Fuits of *Lithospermum officinale* L. (*Boraginaceae*) used as an early plant decoration (2500 years BP) in Xinjiang, China. Journal of Archaeological Science. **34**: 167-170.

Lévi-Strauss, C., 1966. *Mythologiques II. Du miel aux cendres*. Edit. Plon, Paris.

Lévi-Strauss, C., 1968. *Mythologiques III. L'origine des manières de table*. Edit. Plon, Paris.

Lévi-Strauss, C., 1987. *Introduction to the Work of Marcel Mauss*. Edit. Routledge&Kegan Paul, Londra.

Marinescu-Bîlcu, S., Cârciumaru, M., 1992. Coliere de *Lithospermum purpureo-coeruleum* şi „perle" de cerb în neoliticul din România în contextul centrului şi sud-estului Europei. Studii şi cercetări de Istorie Veche şi Arheologie. **43**, 4: 355-370.

Martin, D., 2009. *Beads*, in: Asante, M. K., Mazama, A. (Eds.). *Encyclopedia of African religion.* Edit. Sage, Los Angeles-Washington DC: 116-117.

Mititelu, D., Barabaş, N., 1978. Flora şi vegetaţia judeţului Bacău. St. Com. Muz. Şt. Nat. Bacău. **9-10** (1976-1977): 193-272.

Mititelu, D., Barabaş, N., Bârcă, C., Costică, M., 1994. Contribuţii noi la cunoaşterea florei şi vegetaţiei judeţului Bacău. St. Com. Compl. Muz. Şt. Nat. „Ion Borcea" Bacău. **13** (1980-1993): 81-108.

Mititelu, D., Barabaş, N., Bîrjoveanu, C., Barabaş, V., 1968. Flora şi vegetaţia împrejurimilor oraşului Bacău. St. Com. Muz. Şt. Nat. Bacău: 121-195.

Mititelu, D., Barabaş, N., Nechita, F., 1978. Flora şi vegetaţia împrejurimilor municipiului Roman (judeţul Neamţ). St. Com. Muz. Şt. Nat. Bacău. **9-10** (1976-1977): 281-316.

Mohan, Gh., 2009. *Remedii naturiste. Ghidul plantelor medicinale*. Edit. Corint, Bucureşti.

Monah, D., 2003. Quelques réflexions sur les trésors de la culture Cucuteni. Studia Antiqua et Archaeologica. **IX**: 129-140.

Monah, F., Monah, D., 2008. *Cercetările arheobotanice în tell-ul calcolitic Poduri-Dealul Ghindaru*. Edit. Constantin Matasă, Piatra-Neamţ.

Pârvu, C., 2000. *Universul Plantelor. Mică enciclopedie*. Edit. Enciclopedică, Bucureşti.

Pauc, P., Moinat, P., Reinhard, J., 2004. Le collier de la dame de Chamblandes. La mode à la fin du 5e millénaire avant Jesus-Christ: Le Collier de la Tombe 1 de Pully-Chamblandes (CH). euroREA. **1**: 103-118.

Pauc, P., Moinat, P., Reinhard, J., 2005. Description de la fabrication expérimentale du grain d'enfilage en akène de Lithospermum de type 2 et de la pendeloque à ailettes globulaires. euroREA. **2**: 40-54.

Pliny. *Natural History* (With an English translation in ten volumes), translated by Jones, W.H.S., 1966. Harvard University Press, Cambridge; Edit. William Heinemann Ltd., Londra.

Sârbu, I., Ştefan, N., Oprea, A., 2013. *Plante vasculare din România: determinator ilustrat de teren*, Edit. victorBvictor, Bucureşti: 614, 616-618.

Şerbănescu, D., 1987. Depozitul de mărgele descoperit în tell-ul neolitic de la Vlădiceasa, judeţul Călăraşi. Cultură şi civilizaţie la Dunărea de Jos. **III-IV**: 35-37.

Taborin, Y., 2004. *Langage sans parole. La parure aux temps préhistoriques*. Edit. La Maison des Roches, Paris.

Tiţă, I., 2003. *Botanică farmaceutică*. Edit. Didactică şi pedagogică, Bucureşti: 789-790

Valetine, D. H., 1972. *Buglossoides* Moench, in: Tutin, T. G. (Ed.). *Flora Europaea*, **III.** Edit. Cambridge University Press, Cambridge: 87.

Vitezović, S., 2011. Neolithic decorative objects from osseous materials from the site Starčevo-grad. Zbornik Narodnog muzeja-serija: Arheologija. **20**, 1: 11-25.

http://www.inah.gob.mx/diversidad/index.php?view=article&id=102%3Ala-cruz-parlante&format=pdf&option=com_content&Itemid=46, *Maya Funerary Tapestry Restored and Ready for Exhibition* (accessed Sept. 5, 2014).

| Site Location | Context of discovery | Description of discovery | Cultural framing | References |
|---|---|---|---|---|
| Bodeşti/Frumuşica (Neamț County) | Discovered near a hearth, deposited in a goblet. | Approximately 75 unperforated *Buglossoides purpurocaerulea* nutlets. | Cucuteni B | Cârciumaru and Monah, 1985, 351-352; Cârciumaru and Monah, 1985-1986, 58; Cârciumaru, 1996, 78. |
| Izvoare (Neamț County) | Discovered in a dwelling (L10/1984), deposited in a pot. | Approximately 1091 *Buglossoides purpurocaerulea* nutlets (three - perforated, two - cut at one end, the rest unperforated), three clay objects (two burned and one unburned), six *Hordeum vulgare nudum* seeds and one *Triticum dicoccum* seed. | Cucuteni $A_2$ | Cârciumaru and Monah, 1985-1986, 62; Cârciumaru and Monah, 1987, 172; Cârciumaru, 1996, 87. |
| Izvoare (Neamț County) | Discovered in a dwelling (L9/1988), deposited in a pot. | Approximately 8000 *Buglossoides purpurocaerulea* nutlets, of which 4000 perforated, 40 small beads of clay, 13 imitations of red deer canines, 25 seeds of *T. diccoccum*, 10 seeds of *Hordeum vulgare nudum*, two remains of ears of *T. diccoccum* and various remains of resin. | Cucuteni $A_2$ | Marinescu-Bîlcu and Cârciumaru, 1992, 355-370; Cârciumaru, 1996, 88-89. |
| Poduri (Bacău County) | Discovered in a pit (Gr. 6/2000), deposited in a goblet within a larger pot. | Approximately 22400 *Lithospermum officinale* unperforated nutlets were deposited in a goblet. The goblet was situated within a large pot which also contained a copper fragment, two ceramic fragments, three stone chisels, two astragals, a stone bead with an incipient perforation, two shells, one of which was perforated, and several stones placed on a red ochre layer on the bottom of the pot. | Cucuteni $A_2$ | Monah and Monah, 2008, 43-45, 144-145, 164-166. |

Table 1. Description of *Lithospermum officinale* and *Buglossoides purpurocaerulea* nutlets discoveries from Cucuteni culture sites


a.


b.

Plate 1. Modern nutlets from: a. *Lithospermum officinale* L.; b. *Buglossoides purpurocaerulea* (L.) I. M. Johnston (*Lithospermum purpurocaeruleum* L.).

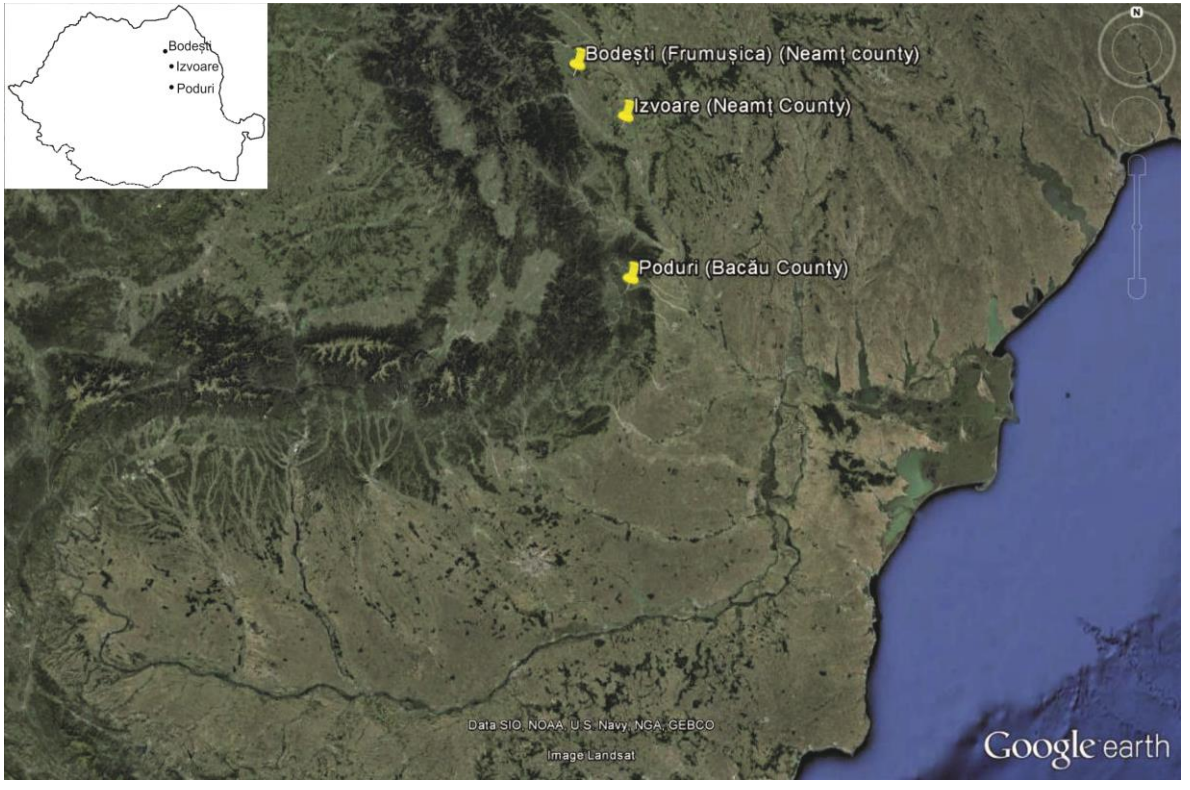


Plate 2. Map of *Lithospermum officinale* L. and *Buglossoides purpurocaerulea* (L.) I. M. Johnston (*Lithospermum purpurocaeruleum* L.) finds from Cucuteni culture archaeological sites (source Google Earth)

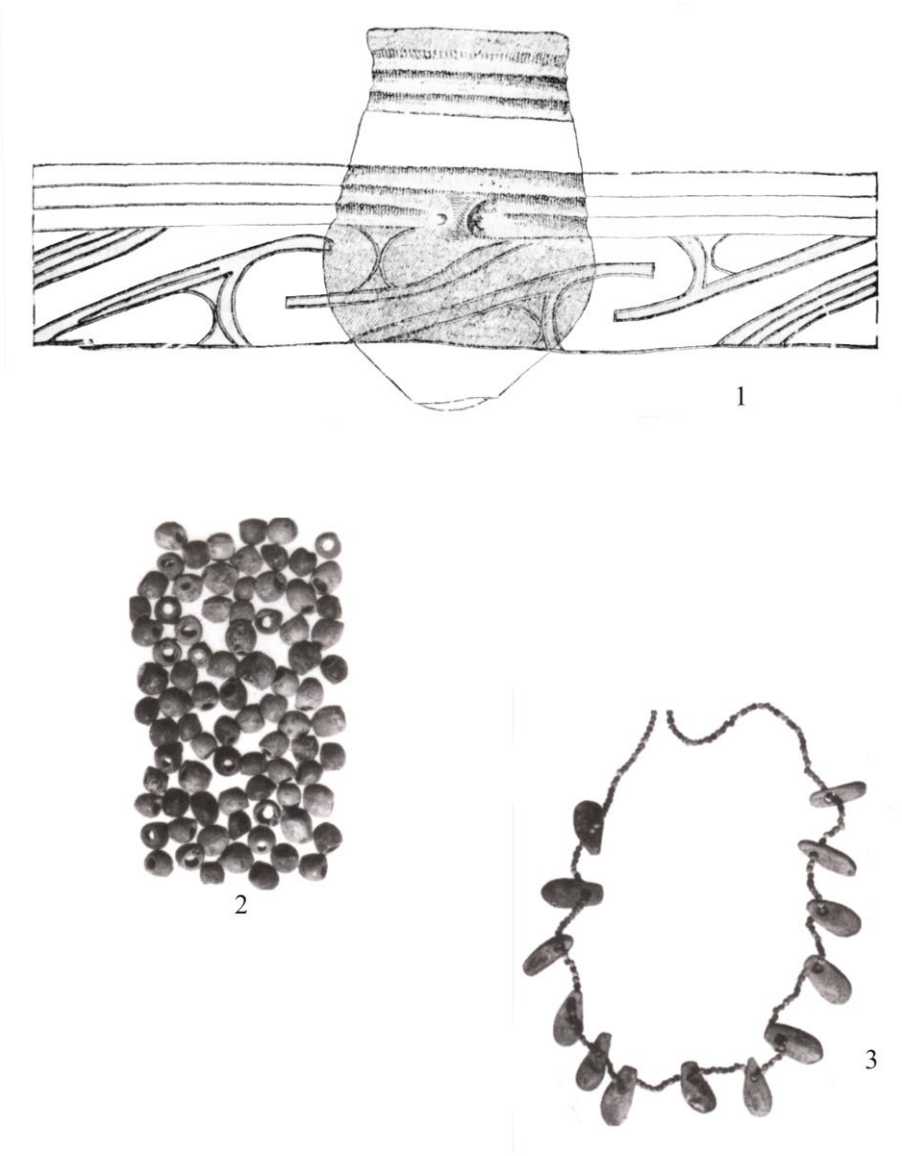


Plate 3. Discoveries from Izvoare/1988. 1: the pot containing the necklace; 2: perforated nutlets; 3: reconstitution of the necklace (source Marinescu-Bîlcu and Cârciumaru, 1992)


1

2

3

4


5

6

Plate 4. Deposit of *Lithospermum officinale* discovered at Poduri-*Dealul Ghindaru*. 1: context of discovery; 2: the goblet containing the nutlets; 3-6: unperforated nutlets (source Monah and Monah, 2008)