THE GEMOLOGICAL RESOURCES OF THE TIMIŞ DISTRICT

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REZUMAT

Pe baza premizelor favorabile furnizate de repartiţia şi caracterele formaţiunilor geologice, precum şi a prospecţiunilor geologice efectuate până în prezent, se face o evaluare a resurselor geologice oferite de aria judeţului Timiş. Se apreciază potenţialul geologic actual al formaţiunilor magmatice, sedimentare, metamorfice, cu specificarea mineralelor şi rocilor cu calităţi de geme caracteristice fiecărei unităţi geologice.

INTRODUCTION. Gemology is the science which deals with the study of the noble stones, which have come into the humanity mass attention still in their pre-historical stage, thanks to their bright colours and to their high hardness. However, since the paleolitic and then the neolitic epoch, the human being has begun to carve and later to polish hard stones to create their first lasting, resistant, and efficient tools and weapons. Through the knowing of stones qualities and through the appropriation of manufacturing techniques, the human being had passed step by step to the manufacturing of the first worship objects, talismans, power and property (seals) meaning and which had been finally transformed into ornamental objects.

Gems are usually cristalized minerals, which may be used as ornaments or for the manufacturing of art objects. These minerals are characterized by

aestetic and physical features such as: colour, brightness, sparkling, transparence, shape, hardness, resistance. Once cut, polished and set, the gems allow preservation of these features. Some substances of organic origin such as coral amber, pearls, ivory, yet are assimilated to the gems.

Owing to the fact that in our literature and in the usually speech, the specific gemological terminology is sometimes obscure, superannuated or ambiguos, we shall do some explantions in connection with terminology. This is especially because they sometimes have, except their gemologic or comercial sense, a legislative one. Because in the public opinion and even in the ancient legislation (still valid) exist opinions and positions which are neither in agreement with the European Community legislation nor with that of the International Gemologic Fora, we shall do the explanations in case of necessity.

First of all, we must mention that the gems, according to the legislation of the European Union and with the regulation of the International Confederation of Jewellers (gold craftsmans), C.I.B.J.O., are divided into the following main categories:

1. Precious stones, which usually include unalterable mineral species , transparent, very hard fusible and which have hardness equal to or greater than 8 in the Mohs scale. Their weight is assessed in carates (one carat is equal to 0,2053 g), they always are being manufactured by facetation methods which rather put their internal sparklings in evidence. In the precious stones category are included only the diamond, ruby, sapphire and emerald. The notion of precious stones refers especialy to their high value, their beauty and their rarity.

2. Fine stones. This category includes stones with hardness which varies betwen 7 and 8, they being much more frequently met in the natural deposits than the precious stones. A great part of them are manufactured by facetation and especially by the chabochone technique. În the fine stones category are included all the other transparent gems, translucid sometimes: acquamarines, topazes, chrysoberyls, tourmalins, amethysts, zircons, garnets etc. The noble opals are also included into this category even if their hardness is between 6 and 6.5. The ancient notion of „semiprecious stones", a still used expression in commerce, had been abandoned in the actual gemological vocabulary, its utilization being prohibited because of its derogatory shade.

3. Ornamental stones (decoratice or for ornamentation). This category includes minerals or mineral agregates, sometimes even true rocks (obsidian) which have hardness equal to 7, but usually smaller than 7 and which are

used in the manufacturing of some art or ornament objects. They are usually polished in the chabochone technique or used in glyptique; those transparent are facetated. In this category are included transparent, translucid or opaque stones, such as: jade, nephryte, turquoise, peridot, rhodochrosite, dyopside, malachite, sodalite, lapis-lazuli (azure stone) and the different woods, dysthene, serpentine etc. Function of hardness, they are subdivided in hard stones, with hardness between 5 and 7, and soft stones with hardnesses below 5.

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The gemological resouces of a region, area or administrative units are conditioned of the existence in that area of some geological formations which were able to generate minerals of gems quality. These formations generating gems (mother rocks) belong as a rule to the three main domains of rocks which compose generally the terrestrial crust. From these, most of generating gems formations belong almost exclusively to the magmatic domain, which provides about 99% from the global world gems production. The remaining of the gemological resouces (1%) are generating by the metamorphic and sedimentary domains. If we analyse through by means of this superficial premise the geological area of the Timiş district, we can statisticaly establish that 92,98% of its surface consists of sedimentary deposits, 5,4% of metamorphic deposits, and only 1,62% amounts to magmatic deposits. From these geological premises follows that the district area presents not too much favorable conditions for the existence of some rich gemological resources. In other words, from the entire district surface of about 8678 kmp, about 8069 kmp amounts to the sedimentary, 469 kmp to the metamorphic, and only about 140 kmp to the magmatic rocks (the latest localized in the Coşteiul de Sus, Nemeşeşti, Bulza, Poiana Ruscă, Lucăreţ and Gătaia areas). If we refer to the total gemological potential of Romania, considered as being of 100% and divided after certain criteria to the 40 districts, a percentage of 1.41 amounts to the Timiş district, placing it in the top of the districts of Romania only on the 19th place. This is only a relative statistical estimation, of course, based on the data of 1985 standards and which may suffer completions based on some future gemological prospections activities.

We shall present in the following the gemological potentials of the three main rock domains of Timiş district.

I. THE SEDIMENTARY DOMAIN

This domain occurs on the largest surface in the Timis district (92.98%), amouting to it an area of about 8069 kmp. Stratigrafically, the marine sedimentary and brackish deposits belong predominant to the Badenian, Sarmatian, Panonian and Quaternary. The greatest weight amounts to the Panonian and Quaternary deposits. Occurences of silicified woods may be in connection with the Panonian sands and sandstones, these woods may be found reworked in the deposits of the brooks and rivers which cross these deposits (see Fig. 1).

Occurences of fosiliferous lacustrine silicolites (with Characee oogoane) are in connection with lacustrine deposits from the Gosi area.

Occurences of fosiliferous molluscs are in connection with the Badenian deposits from the Coşteiul de Sus - Nemeşeşti area, and which through their aesthetic forms and their good preservation state can be used as ornamental objects.

Occurences of aventurinic quartzites and even varieties of chalcedony, agate and jaspers may be in connection with Pleistocene, Holocene and actual gravels of the Bega and Timiş rivers. Moreover, in the Timiş deposits of the rivers, the beryl, toumaline and garnets may occur.

II. THE METAMORPHIC DOMAIN

This domain occupies the western areas of the Poiana Ruscă Mountains and the crystalline island from the south of Buziaş (469 kmp - 5.40%), consisting generally in epimetamorphic crystalline shales with intercalation of dolomites and crystalline limestones. The occurences of carbonatic yellowish-brownish, fine laminated onix (aragonite) are in connection with these metamorphites; this onix occurs in the right bank of the Bega river, at Luncani, in the place named Cisaca Nimanilor. Here, it constitutes a lens of 100 m long, 60 m broad and 35 m thick. The aragonite constitutes a beautiful ornamental stone from which they may have manufactured art and writing-table objects. It constitutes the greatest-deposit of this kind from our country.

Also in the Luncani region talc, dolomitic limestones and even marbles occure and they may be used in the same purposes.

III. THE MAGMATIC DOMAIN

Even it occupies a rather small area of about 146 kmp (1.2%) localized in the north-eastern corner of the district, to which a serie of scattered bodies in the western side of the Poiana Ruscă Mountains are added, this magmatic area constitutes so far, the main area with gems minerals occurences. Small basalt massives occure even in the sedimentary deposits area from Lucăreţ and Gătaia.

The many minerals from the chryptocristalline quartz family are in connection with the occuring areas of the banatites bodies (laramic eruptions) from the following three areas:

– the area with andezitic eruptive bodies and with the aglomerates of these from the Coşteiu de Sus - Bulza - Groşi - Nemeşeşti area;

– the Pietroasa - Crivia de Sus area;

– the diorite, andezite and riolite bodies area placed to west of the Poiana Ruscă Mountains that is to North of Nădrag (Gladna - Huzeşti - Drinova area).

From these three areas, only the first one was partly examined under gemological aspect, the other two constituting unexamined areas. In the Bulza locality boundary, on the Bulza, Bolinda, Putori, Ioneasca, Peştis, Nastan, Ultoni, Fata Mare, La Brazi, Tigănesc valleys and on the Piatra Sârbului, Ciungilor, Gruiu, Cimitirului hills, chalcedonies and monocromatic (translucide-white) agates fragments, coloured jaspers and silicified woods appear. The same gemologic range occurs upstream of Groşi, on the Somonita Valley and on its superiór affluents. Also here, a green rock (corneene with epidote) occurs at the confluence with Valea Ciutii and it constitutes an ornamental stone with real aesthetic qualities (colour and brightness).

At Coşteiul de Sus and Nemeşeşti, on the Ungurului, Sârbului, Caselor, Negrileasca valleys and their collector, The Icului Valley, the same chalcedonies, agates and polichrome jaspers varieties occur.

It is also possible that the bodies from Pietroasa and from the west of The Poiana Ruscă Mountains to be characterized by similar minerals varieties. At Romăneşti, in the Dumbrăviţa area, on the Cremenea hill, the common opal occurs, and in the gravels of the brook which comes from Pietroasa, chalcedonies and jaspers may occur.

The bazalte bodies from Lucareţ and Gătaia have a particular situation, that which, except calcite and quartz, sporadic olivine (peridote) of gemological importance occurences would be in connection with.

Of course, this work does not obviously exhaust all the gemological possibilities of the Timis district, and because of these reasons we consider that the future research will be able to give emphasis to new and variable raw materials resources of gemological interest. However, the already known resources may constitute the base of some small local artizanal workshops.

Because in the Timiş district and in the neighbouring areas the vestiges of some Roman establishments are found, there wouldn't be out of the question the fact that a part of the Roman gems found in the archaelogical sites would be manufactred also from autohtone gemological resouces.

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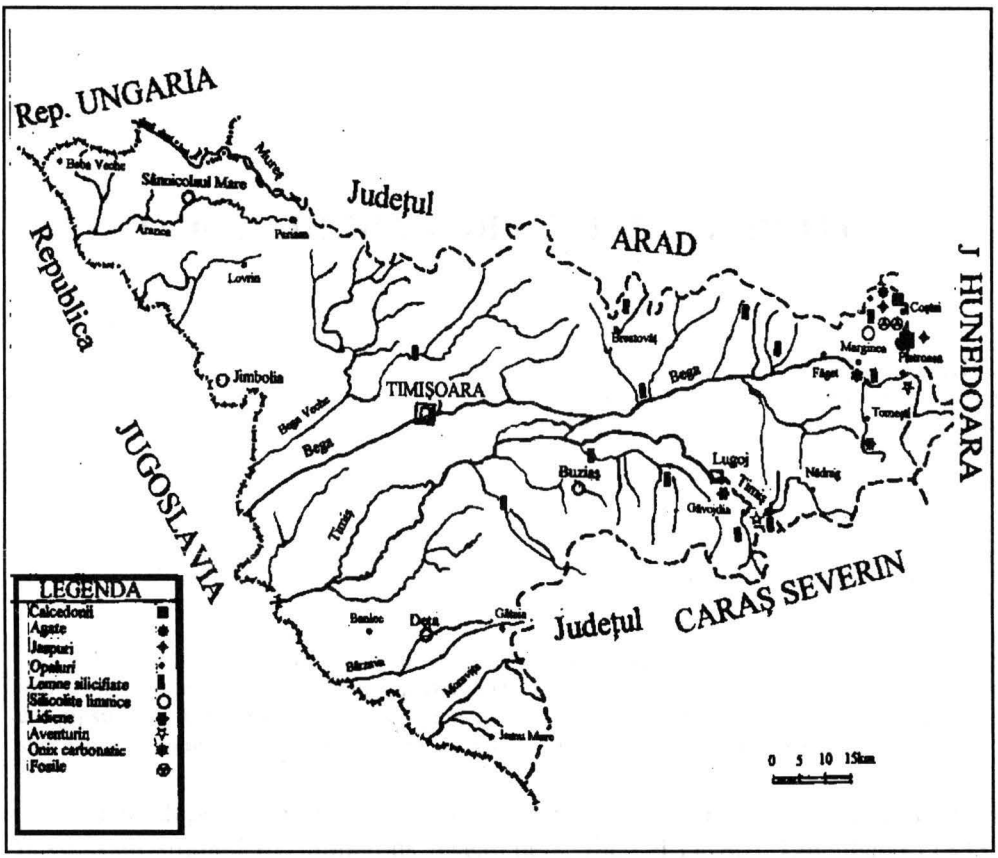

Fig.1 – The gemological resources of the Timiş district
Resursele gemologice ale judeţului Timiş