



GEMMOLOGICAL REPORT

Report Number
22072109

Colour
blue

Date
16 August 2022

Species
Natural tourmaline

Item
One faceted gemstone

Variety
Paraiba

Weight
100.09 ct

Origin
Mozambique

Shape
oval

Comments
See Information Sheet(s).

Cut
modified brilliant cut

Important notes and limitations on the reverse.

Measurements
29.90 x 24.18 x 18.58 mm

Transparency
transparent



Annette Widemann-Wong



Wendi Mayerson



INFORMATION SHEET

to Report No. 22072109

Paraíba tourmaline, treatment not determinable

The formation of gemstones and their uplift to the earth's surface is a long and often tumultuous process. The growth of a beautifully coloured crystal is a matter of rare and highly specific geological conditions, such as the availability of certain trace elements. Fissures and fractures induced by tectonic activities and/or the mining process might affect the transparency of the stone. Consequently, only a fraction of the discovered gems show the colour and transparency considered desirable and therefore marketable. The resulting undersupply of high-quality gemstones is in contrast with a large share of the mining yield having sub-optimal colour and/or transparency.

For centuries, mankind has found a way to overcome this challenge, by applying treatments to coloured gemstones such as various types of heating, irradiation or filling of fissures, fractures and cavities with transparent substances. These treatments intend to add or intensify a specific colour, to remove an undesirable hue, or to hide the presence of fissures and cavities.

Treatments are important as they help satisfy the demand for high-quality gemstones. Most treatment methods are a standard practice and are accepted by the trade and the final customers.

However, a treated gemstone is not as rare as an untreated specimen

of the same quality, and therefore the treated gem trades for lower prices than the pristine, natural beauty. Consequently, it is vital to disclose the presence or absence of a treatment in order to determine a correct price. For many years, gem labs are stating a treatment comment for certain coloured gemstones, namely rubies, sapphires and emeralds by default. However, treatments are also known on other types of coloured gemstones. The identification of such treatments in some types of gemstones is not always straightforward, sometimes even undeterminable, despite the use of sophisticated analytical methods and scientific research.

Paraíba, a Cu- and Mn-bearing vivid violet-blue to blue to bluish green and green variety of the tourmaline group with medium to strong saturation, is one such type of gemstones. While the colour does occur naturally in a small number of crystals, it can be induced by heating transparent differently coloured Cu- and Mn-bearing tourmaline (mostly purple) at low temperatures. It is generally known that a large share of paraíbaes have been exposed to heat treatment in order to improve the colour. The colour produced by this treatment is known to be stable. However, in most cases the detection of this treatment is not possible. In spite of ongoing research to distinguish heated from unheated samples the colour authenticity of the majority of blue to green paraíbaes remains undeterminable.

Information Sheets are intended to provide information supplementary to the contents of the Report and comment on, for instance, the type of gemstone, the geographic origin and the presence or absence of treatments. By definition, Information Sheets are purely informative in nature; they consist of a standard text and are issued for all types of stones of that particular category. Information Sheets, therefore, do not imply a certain quality or rarity of the stone described in the Gübelin Gem Lab Report which it is attached to.

INFORMATION SHEET

to Report No. 22072109

Paraíba tourmaline

The so-called 'Paraíba tourmalines' entered the international gem market towards the end of the 1980s. They immediately became prized and coveted for their vivid coloration which ranges from violetish-blue to greenish-blue to green (including blue-green, turquoise-blue, and emerald-green) with medium-light to high saturation and tone. The colours of these tourmalines (sometimes also referred to as 'electric blue' or 'neon green' in the trade) are caused by varying amounts of the elements copper and manganese. The bright vivid blue and green 'Paraíba colours' have not been seen in any other gemstone variety.

The first 'Paraíba tourmalines' originated from a deposit near the village of São José de Batalha in the north of Paraíba state, Brazil.

Later, by the mid-nineties, other occurrences were discovered in the northernmost part of Paraíba state and in the adjacent, southernmost corner of Rio Grande do Norte state, near the town of Parelhas. In 2000, another source of this colour variety of tourmalines was discovered in Nigeria. More recently, the Alto Ligonha region in Mozambique joined the small and exclusive group of mining areas where 'Paraíba tourmalines' are found.

In all these areas, particular geochemical surroundings cause the formation of exceptional tourmalines in pegmatite host rocks. These surroundings are also responsible for the unique colours of the 'Paraíba tourmaline'.

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GÜBELIN

GEMSTONE RATING



Excellent

22072109

16 August 2022

Variety:
Paraíba



Weight:
100.09 ct

Scan QR-Code for more information



Gübelin Gem Lab
Lucerne Hong Kong New York
www.gubelingemlab.com

Notes and limitations

The Gübelin Gemstone Rating is a comprehensive system to assess the quality, attractiveness and rarity of coloured gems expressed in a single number, the Gübelin Points. The Rating intends to provide orientation and direction for privates and professionals who wish to get a simple ranking for their gemstones, comprising a selection of characteristics considered key for coloured gemstones. The Rating can be used in combination with a gem lab report to help in the assessment of the gemstone.

The Rating comprises three domains: quality, rarity and salience. Quality is the major part, covering the visual characteristics of the gemstone, specifically its colour, clarity/transparency, and cut. Rarity includes the type of gemstone, the presence, absence or type of treatment, and the weight of the gemstone. Salience addresses the extent of exceptionality of a gemstone, it is best seen as the gemstone's capability to be particularly noticeable, conspicuous or prominent. For more details about the different characteristics comprised in the Rating, scan the QR code on the Rating document or consult our website www.gubelingemlab.com.

The Gübelin Gemstone Rating is applied on the major types of high-value, natural (i.e. non-synthetic), faceted or polished, as well as transparent coloured gemstones. Gemstones that were subjected to treatments that are generally accepted in high-value specimens, such as heat treatment and clarity enhancement, do also qualify for the Rating.

The Rating is conducted by experienced and trained gemstone experts, following a highly structured procedure. Nevertheless, the Rating procedure partially is of subjective and qualitative nature and as such susceptible to inconsistencies. Consequently, the Rating and hence the Gübelin Points might differ over time for the same gemstone. The Gübelin Gem Lab is also reviewing from time to time the underlying grades and weights assigned to certain characteristics. This applies specifically, but not exclusively, to the rarity attributes, as rarity is directly affected by changes in supply and demand.

Gübelin Gemstone Ratings are not based to the same level of scrutiny as, for example, Gübelin Gemmological Reports. It is important to understand that Gübelin Gemstone Ratings do not comply with the standards specified by the Gübelin Gem Lab Seal. Owing to this difference, the result of the short visual assessment applied for the Gübelin Gemstone Rating, and hence the resulting Gübelin Points, might not be consistent with the findings stated in a Gübelin Gemmological Report for the same gemstone.

The Rating reflects the state of the gemstones at the time of examination. The colour photograph serves merely as an illustration of the gemstone. The appearance of the actual gemstone may differ from its photographic image. Gemstones set in jewellery are assessed and rated insofar as mounting permits.

The Gübelin Gemstone Rating and the Gübelin Points do not constitute a guarantee for, or appraisal of, the gemstone described herein. It is important to understand that the Gübelin Gemstone Rating and the Gübelin Points do not imply any authenticity, or any commercial value of the gemstone, neither directly nor indirectly. The Gübelin Gem Lab assumes no responsibility for any damage or loss, or claims by third parties, which may arise from the issuance, use or misuse of a Gübelin Gemstone Rating or the Gübelin Points. It is recommended to carefully read the document "General Terms & Conditions" available on our website www.gubelingemlab.com.

Notes and limitations

In keeping with the tradition and high standards of the Gübelin Gem Lab (Gübelin), each Report reflects the findings and independent opinion of Gübelin. Gem testing is carried out by qualified gemmologists applying approved analytical methods and using approved instrumentation. The description given in the Gemmological Report (hereinafter called Report) is limited to a selection of identifying characteristics observed in the gemstones (henceforth including single stones as well). The findings mentioned in this Report reflect the state of the gemstone at the time of examination. The unaltered original of the Report is the only valid document. Mounted stones are tested only insofar as mounting permits. Determination of the measurements of mounted stones cannot, in most cases, match the precision achievable on loose stones. Weight indications for stones tested in a setting are estimates; weight figures indicated by the client are checked by Gübelin. Stones tested prior to mounting are subject to a re-identification when resubmitted in the final jewellery piece. It cannot be excluded that they underwent changes, such as re-polishing that could remain undetected during re-identification. The colour photograph printed on the Report serves merely as an illustration of the items under examination. The actual appearance of the items may differ from their photographic image. The descriptions of jewellery items may be shortened and simplified.

Origin. A professional opinion as to the probable geographic origin of a gemstone may be given whenever possible and if requested. Deductions as to geographic origin are based exclusively on the internal characteristics, physical and chemical properties observed by Gübelin staff, by comparison to the properties recorded from reference stones of known identity, the results of continuing research undertaken by Gübelin, and gemmological knowledge published to date. The reference stones mentioned previously are part of the Gübelin gemstone reference collection and are systematically and continuously collected, classified and characterised. Gemstones from different geological sources may reveal a tell-tale combination of characteristic inclusion patterns, absorption spectra and trace-element compositions that allows for the determination of their origin. Indications of origin provided by Gübelin are not a warranty as to the quality or value of the gemstones. They are statements of qualified opinion, and do not guarantee the provenance of particular gemstones. Rather, such statements indicate the most probable origin, based on the data collected for the gemstones tested.

The combination of data may not, in all instances, provide the necessary basis for the determination of a single origin. When such cases arise, the Gübelin Gem Lab does not comment as to the origin of the gemstone. In addition, a determination of the origin of a gemstone reflects the level of knowledge and expertise about the respective type of gemstone at the time of the analysis. As stated above, Gübelin owns a comprehensive collection of authentic and fully analysed samples from all commercially relevant mines worldwide. This is an essential prerequisite for providing credible and reliable origin determination services. However, mines in new areas and other countries are coming on stream, and Gübelin regularly travels to collect sample material from new sources and thoroughly study its characteristics. The gemstones from such new mines can possibly show gemmological characteristics which might overlap with the characteristics of stones from earlier known localities. In such case, the previously defined criteria must be reviewed to ensure the basis for the determination of the origin as described above.

Enhancement. Historically, many coloured gemstones have been enhanced to improve their appearance. Enhanced is a term used in the trade to describe any process additional to cutting and polishing that improves the appearance or durability of gemstones. Today, a variety of traditional and advanced enhancements (also known as treatments) are routinely applied to many natural gem materials. Heat treatment (also known as thermal enhancement) is commonly applied to gemstones such as rubies and sapphires, but also to tourmaline to improve colour and/or transparency (clarity). Thermal enhancement of most gemstones is considered stable and permanent under normal wear and handling conditions, and it is generally accepted by the international gem and jewellery trade.

Enhancement disclosure. Generally, the wording used in Gübelin Reports is fully compliant with the nomenclature standards defined by the Laboratory Manual Harmonisation Committee (LMHC). In keeping with international trade practices, Gübelin does not make a separate comment for every type of enhancement that is commonly applied to any of a wide range of gemstones in today's marketplace. For example, thermal enhancement is commonly applied to most tanzanite, zoisite, Paraíba tourmaline, aquamarine, citrine, topaz, zircon, and others. For these and other types of gemstones, thermal enhancement is considered the norm and is generally accepted in the trade, and the presence or absence of such treatment is not usually mentioned in Gübelin Reports. Colour stability tests on gemstone varieties known to possibly fade are generally not undertaken. Thus, Gübelin will disclose enhancements mentioned herein if it detects any. Note, though, that certain enhancements cannot be detected or can be detected only under special conditions. Any comments made regarding the presence or absence of enhancements will therefore only reflect Gübelin's findings; thus, the fact that no enhancement is disclosed or that certain enhancements are not disclosed in the Report does not necessarily mean that such enhancement is absent.

Paraíba tourmaline. 'Paraíba' tourmalines entered the international gem market towards the end of the 1980s. They immediately became prized and coveted for their vivid colouration, which ranges from rare purple to violet-blue, from blue to green and yellowish-green (including blue-green, turquoise-blue and emerald-green). The colours of these tourmalines (some of the colours sometimes referred to as 'electric blue' or 'neon green' in the trade) are caused by varying amounts of the elements copper and manganese. The bright vivid blue and green 'Paraíba' colours have not been seen in any other gemstone variety.

The first Paraíba tourmalines originated from a deposit near the village of São José de Batalha in the north of Paraíba State, Brazil. Later, by the mid-1990s, other occurrences were discovered in the northernmost part of Paraíba State and in the adjacent southernmost corner of Rio Grande do Norte State, near the town of Parelhas. In 2000, another source of this colour variety of tourmalines was discovered in Nigeria. More recently, the Alto Ligonha region in Mozambique joined the small and exclusive group of mining areas where Paraíba tourmalines are found. In all these areas, particular geochemical surroundings cause the formation of exceptional tourmalines in pegmatite host rocks. These surroundings are also responsible for the unique colours of the Paraíba tourmalines.

As mentioned above, the wording used in Gübelin Reports is fully compliant with the nomenclature standards defined by the LMHC. Accordingly, any elbaite tourmaline containing copper and manganese with a blue (electric blue, neon blue, violet blue), bluish green to greenish blue or green colour of medium to high saturation and tone, independent of its origin, is identified as a Paraíba tourmaline.

The Report does not constitute a guarantee for, or appraisal of, the gemstones described herein. Gübelin assumes no responsibility for any damage or loss, or claims by third parties, which may arise from the issuance, use or misuse of this Report. It is recommended to carefully read the document "General Terms & Conditions" available on our website www.gubelingemlab.com.

Report Verification No.: mrtp

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GIA GEMOLOGICAL REPORT

TOURMALINE REPORT

GIA REPORT 7192568834

February 27, 2015

DETAILS

Shape..... Oval
Cutting Style Modified Brilliant Cut
Transparency Transparent
Color..... Greenish Blue

RESULTS

Species..... Tourmaline
Geographic Origin Not Requested

TREATMENT

Scan QR code for more information

Item Description: One loose stone

Weight: 100.09 carat

Measurements: 29.92 x 24.20 x 18.59 mm

Comments: This copper and manganese bearing tourmaline may be called "paraiba tourmaline" in the trade. The name "paraiba" comes from the Brazilian locality where this gem was first mined, however today it may come from several localities.



Image is approximate



reportscheck.gia.edu

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