

Texas Topaz, Slovak Opal, a Beryl Inclusions Chart, and More



Welcome to the Winter 2023 edition of *Gems & Gemology*! This issue brings an exciting conclusion to the volume year with three feature articles, a field report, a colorful new inclusions chart, and the return of the *Colored Stones Unearthed* column along with our other regular columns.

Our first article explores a prized gemstone from the United States: Texas topaz, sought after for its domestic provenance and rare natural blue color. Dr. Roy Bassoo and coauthors begin with a historical account of topaz from Mason County, Texas, followed by discussion of its geologic origin, compositional characteristics, manufacture, and significance to the gem trade. In addition, the authors seek to provide a basis

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for determining geographic provenance.

Next, Dr. Karl Schmetzer and fellow researchers investigate a technique for setting cut garnets on glass objects, invented by Claudius vom Creutz of Nuremberg in the late sixteenth century. Examining two glass vessels at museums in Germany, the authors analyze the stones decorating the objects and the methods used to attach them.

Petrified tree fern from northeast China is the topic of our next article. A team led by Ying Yan reports on the gemological properties, chemical composition, and appearance of this material, which displays a beautiful pattern and is being used in intricate carvings in China.

Our fourth article, a field report from Dr. Peter Semrád, presents the revival of Slovak opal mining. It provides a brief history of mining in the area and details on geology and mineralogy, followed by coverage of recent mining activity, production, and marketing.

To close out our features, GIA researchers led by Nathan Renfro and John I. Koivula offer a captivating look at the internal features of beryl, with a foldout chart featuring 30 remarkable photomicrographs. Laminated versions of the chart, along with the six other inclusion charts in the series—emerald, sapphire, ruby, diamond, opal, and spinel—are available at store.gia.edu.

G&G's regular columns continue to provide the latest gemological findings. Noteworthy updates from GIA laboratories are summarized in *Lab Notes*, including an HPHT-treated laboratory-grown diamond featuring dramatic color zoning, an antique Indian-style headdress decorated with seed pearls, and a rare faceted thomsonite. *Micro-World* showcases the inner landscapes of gemstones with striking hollandite crystals in a Brazilian amethyst, a stress halo resembling a butterfly in a natural diamond, a metal sulfide crystal suspended in a padparadscha sapphire, and more. *Colored Stones Unearthed* returns in this issue, covering the formation and mining of gemstones from sedimentary rocks. Finally, highlights from the *Gem News International* section include reports on pyritized triceratops fossils from South Dakota, training for artisanal diamond miners in Liberia, and a recent discovery of blue amblygonite-montebasite from Rwanda.

We hope you enjoy the latest edition of *Gems & Gemology*!

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