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## PRESS RELEASE

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## Breakthrough scientific study on precious coral identification leads to new DNA coral fingerprinting service by SSEF



*An exceptional precious coral necklace with 55 beads of up to 20 millimetres in diameter, from the Mediterranean *Corallium rubrum* species. DNA fingerprinting technology can provide scientific species documentation for such outstanding coral items found in jewellery. Photo: SSEF*

BASEL, SWITZERLAND: MAY 19, 2020 - A breakthrough study entitled "[DNA fingerprinting: an effective tool for taxonomic identification of precious corals in jewelry](#)", authored by researchers from the Swiss Gemmological Institute SSEF and the University of Zurich's Institute of Forensic Medicine (IRM) and recently published in the leading peer-reviewed journal

*Scientific Reports (Nature Group)*, has led to a new service being offered by SSEF to aid in the traceability of precious coral jewellery.

This is the first major scientific study that details a methodology using minute amounts of DNA recovered from precious coral used in jewellery to identify their species. This is vital given that a number of precious coral species are listed on the Convention on International Trade in Endangered Species (CITES) Appendix III, and thus need to be correctly identified and declared in order to be legally traded.

The ability to trace precious corals back to their species-related and geographic origins can provide greater transparency, as well as supply important scientific information for the documentation of modern and historic items.

The DNA fingerprinting technology outlined in the article represents a game-changing way of assessing the species identity of precious corals found in the trade. Importantly, the technique described here is quasi non-destructive, requires considerably less sample material than other methods, with testable DNA being recovered from as little as 2.3 milligrams (0.0115 carats) of material.

"We are proud to be able to offer this new service to the coral trade and contribute to greater traceability in the jewellery industry," said Dr. Michael S. Krzemnicki, director of SSEF. "This service builds on our pioneering research into the genetic identification of pearls, and the development of new methods to increase the traceability of organic gem materials in the trade."

Dr. Adelgunde Kratzer of the Institute of Forensic Medicine at the University of Zurich stated: "We are thrilled that this research collaboration has led to this joint publication and service. It is our hope that our DNA analysis of corals can contribute to conservation of coral resources."

The research and new service are being offered in partnership with the Institute of Forensic Medicine at the University of Zurich, one of Switzerland's leading forensic institutes. Detailed information about the use of DNA fingerprinting of precious corals can be found in the following journal article: <https://www.nature.com/articles/s41598-020-64582-4>.

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#### **About the SSEF**

The Swiss Gemmological Institute SSEF, which is part of the Swiss Foundation for the Research of Gemstones (SSEF: Schweizerische Stiftung für Edelstein-Forschung), was founded by trade organisations in 1974 and works independently on a scientific basis. It is structured as a foundation under the aegis of Switzerland's Federal Department of Home Affairs. The function of its laboratory is to analyse precious stones and issue test reports for diamonds, coloured stones and pearls. Members of SSEF Laboratory are also engaged in research and education, in connection with leading universities or with other gemmological laboratories.