

**INTERNATIONAL MINERALOGICAL ASSOCIATION
COMMISSION ON NEW MINERALS, NOMENCLATURE
AND CLASSIFICATION**

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2 November, 2022

Dear Xiangping,

Congratulations on your new mineral, TIANHUIXINITE (2022-081)!

The attached summary will appear in my next memorandum to the members of the Commission on New Minerals, Nomenclature and Classification. You should consider the comments of the members when you write your final description.

Although the Commission has no strict rule dealing with publication, I would ask that you ensure that the first published record of your mineral is in the scientific literature.

The CNMNC has decided to announce new minerals (**with or without their name, depending upon the authors' wishes**) with some data on the CNMNC website, one month after their approval. The text that will appear is attached below.

One of the rules of our Commission is that the description of a new mineral must be published within **two years** of notification of the approval. If publication does not take place during that time, approval of the mineral and its name will be withdrawn.

Proof of receipt of the type specimen(s) by the curator of the collection in which the type specimen(s) have been deposited must be sent to me as soon as possible to ensure approval.

The Commission strongly disapproves of the practice of providing specimens of new species to mineral dealers prior to the full description of the new species being published in the scientific literature.

Please send a copy of this letter with the manuscript of your description when you submit the paper for publication. This will indicate to the editor of the journal that the mineral and its name have been approved by the Commission on New Minerals, Nomenclature and Classification of the International Mineralogical Association.

Please send a reprint of the description to me when it is published.

Best regards,



Ritsuro Miyawaki, Chairman CNMNC

Encl.

**Monthly announcement of new minerals on the CNMNC website and in the
Mineralogical Magazine and the *European Journal of Mineralogy*
with or without their name, with a limited number of data.**

The Commission on New Minerals, Nomenclature and Classification decided in January 2010 (Proposal 09-D: the early publication of new mineral names) that additional data would be published one month after the approval date on the CNMNC website. This data will also be published in the *Mineralogical Magazine* and in the *European Journal of Mineralogy*, under the heading of a CNMNC Newsletter.

For your newly approved mineral, the following data will be published in line with the above, unless you wish the mineral name to remain confidential until the full description is published. If this is the case, the name will be removed from the data listed below. **NOTIFY ME BY E-MAIL IF YOU DO NOT WISH TO HAVE THE NAME OF YOUR MINERAL RELEASED PRIOR TO PUBLICATION.** Please also cross-check the data with your checklist, and inform me if you find any mistakes.

IMA No. **2022-081**

Tianhuixinite

(MoO₃)₃·H₂O

Symbol?

Summit group of claims, near Cookes Peak, southern end of the Cookes Range, Luna Co., New Mexico, USA (32°33'47" N, 107°43'48" W)

Xiangping Gu*, Ron Gibbs and Hexiong Yang

*E-mail: guxp2004@163.com

Known synthetic analogue

Hexagonal: *P*6₃/*m*

a = 10.5845(3), *c* = 3.7285(1) Å

9.174(100), 4.586(26), 3.456(94), 3.047(43), 2.539(34), 1.999(13), 1.951(14), 1.641(22)

Type material is deposited in the collections of the University of Arizona Alfie Norville Gem & Mineral Museum, 115 N Church Ave Ste 121, Tucson, AZ 85701, USA, catalogue # 22722 (holotype), and the RRUFF Project, deposition # R220024 (cotype)

How to cite: Gu, X., Gibbs, R. and Yang, H. (2022) Tianhuixinite, IMA 2022-081. CNMNC Newsletter 70, Eur. J. Mineral., 34, <https://doi.org/.....>

2022-081
TIANHUIXINITE

	Yes	No	Abstain
Mineral	18	0	0
Name	18	0	0

Consequently, both the mineral and the name have been **approved**.

COMMENTS ON THE MINERAL:

Those who voted **YES** made the following comments:

1. Lacks many properties but can be accepted as a new mineral.
2. Without optical properties, and without single-crystal X-ray studies, but with enough information to establish a new mineral.
3. OK description. Optical properties are lacking.
4. For hexagonal minerals you report the *c/a* ratio. What is the color under transmitted light, in the microscope?
5. *Occurrence/Paragenesis*: as tiny aggregates associated with many other secondary Mo minerals in limestone-hosted polymetallic hydrothermal mineralisation.
Chemical Analysis/Formula: OK including H from structural stoichiometry.
Optical Properties: Gladstone-Dale mean RI estimate only, given small size and very high RI values.
XRD data/Crystal Structure: OK. Powder data agrees with that for well-known synthetic analogue.
Other data: Raman spectrum supplied and the same as for synthetic analogue.
Relationship to other minerals One of a rapidly growing family of natural hydrated MoO₃ phases.
6. Please explicitly state how the mineral was formed. It is stated that cleavage was not observed; however, the caption for Figure 2d is “back-scattered electron image showing the internal texture of tianhuixinite with micro-cleavages.”

Those who voted **NO** made the following comments:

Those who **ABSTAINED** made the following comments:

COMMENTS ON THE NAME:

Those who voted **YES** made the following comments:

1. After late eminent Chinese ore mineralogist. A specific connection to Mo minerals would be desirable.

Those who voted **NO** made the following comments:

Those who **ABSTAINED** made the following comments: