



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

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2 July, 2024

Dear Cristian Biagioni,

Congratulations on your new mineral, 2024-015_DACOSTAITE!

The attached summary will appear in my next memorandum to the members of the Commission on New Minerals, Nomenclature and Classification (CNMNC). 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 If publication does not take place during that time, approval of the mineral and its name will be withdrawn.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.

You must be sent 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 CNMNC of the International Mineralogical Association as well as the comments of the CNMNC members.

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

Best regards,

Chairman CNMNC

Encl.



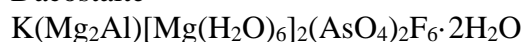
**Monthly announcement of new minerals on the CNMNC website and in the
Mineralogical Magazine and the *European Journal of Mineralogy*
with or without their name, with a limited number of data.**

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.**

IMA No. 2024-015

Dacostaite



Symbol

Cetine di Cotorniano mine, Chiusdino, Siena, Tuscany, Italy (43°13' N, 11°09' E)

Cristian Biagioni*, Daniela Mauro, Jiří Sejkora, Zdeněk Dolníček, Andrea Dini and Radek Škoda

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New structure type

Monoclinic: $C2/m$; structure determined

$a = 12.474(5)$, $b = 7.198(3)$, $c = 13.724(6)$ Å, $\beta = 99.52(1)^\circ$

13.7(s), 6.2(w), 5.98(mw), 5.48(m), 4.494(w), 3.581(mw), 2.977(m), 1.797(mw)

Type material is deposited in the collections of the Museo di Storia Naturale, Università di Pisa, Via Roma 79, Calci (PI), Italy, catalogue number 20073

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<https://doi.org/.....>



2024-015
DACOSTAITE

	Yes	No	Abstain
Mineral	22		
Name	22		

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

COMMENTS ON THE MINERAL:

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

1. A more common term than “sericeous” should be used to describe the lustre.
2. Associate of nannoniite.
3. Very good work.
4. The accurate discussion of the hydrogen bonding is appreciated.
5. A remarkable "micaceous" structure.
6. Proposal with complete information, good job.
7. Check the legend of Figure 4.
8. Name. after late expert on the mineralogy of Tuscany.
Occurrence/Paragenesis: micaceous flakes, formed by reaction of As+F bearing fluids with Sb-Fe ore deposit.
Chemical Analysis/Formula: very high total due to rough surface and probably also instability in beam/vacuum. Crystal structure vital to understand stoichiometry and degree of hydration. Empirical $M^{3+}:M^{2+}$ ratio in structural layer is rather far from ideal value, mainly due to need to balance low charge in partly occupied K site.
Physical Properties: OK. Optical Properties: AOK. Type material location: OK.
XRD data/Crystal Structure: OK. Structure contains layers of alunite-type topology.
Other data: Raman spectrum provided.
Relationship to other minerals: a layered arsenate fluoride structurally related to and of similar stoichiometry to the phosphate elliotite, to which its formula is related (rather artificially) by $(KMg_2[Mg(H_2O)_6]\square)(NaAl_2\square(H_2O))_{-1}$. Both minerals contain $AM_3[TO_4]_2X_6$ sheets of alunite-like topology, with additional interlayer components.
9. The extinction is parallel or close to parallel taking what feature as a reference?
Crystals seem to be large enough to be mounted and properly polished, if that is a cause of problems for the WDS analysis.

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

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

COMMENTS ON THE NAME:

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

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

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