

Crystal Data: Pseudohexagonal. *Point Group:* $\bar{3} 2/m$. Crystals rhombohedral, nearly equant, to 4.5 cm; tabular, complex to rounded twins; anhedral, granular, or massive. *Twinning:* About [00*1], interpenetrant, simple and repeated, common; or by contact on {10*1}.

Physical Properties: *Cleavage:* {10*1}, distinct. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 4-5 D(meas.) = 2.09(2) D(calc.) = 2.035

Optical Properties: Transparent to translucent. *Color:* White, yellow, pink, red, colorless; colorless in thin section. *Streak:* White. *Luster:* Vitreous.

Optical Class: Biaxial (+) or (-) or uniaxial; commonly shows birefringent panelling in six sections.

Orientation: $X = c$; rarely $Z = c$. $a = 1.478-1.487$ $\beta = \text{n.d.}$ $\gamma = 1.480-1.493$ $2V(\text{meas.}) = 0^\circ-32^\circ$

Cell Data: *Space Group:* $R\bar{3} m$. $a = 13.863(3)$ $c = 15.165(3)$ [hexagonal cell, with composition (Na_{3.11}K_{1.05}Ca_{0.19}Mg_{0.06}Sr_{0.05})[Al_{4.53}Fe_{0.01}Si_{7.40}O₂₄]·11.47H₂O] $Z = 1$

X-ray Powder Pattern: Biggest 'Faraglione' facing Aci Trezza, Sicily, Italy. 9.50 (s), 4.36 (s), 2.947 (s), 2.612 (ms), 2.523 (ms), 1.807 (ms), 5.11 (m)

Chemistry:	(1)		(2)	
	(1)	(2)	(1)	(2)
SiO ₂	48.83	42.45	Na ₂ O	7.98
Al ₂ O ₃	21.33	22.06	K ₂ O	5.46
MgO	0.09	0.24	H ₂ O ⁺	16.39
CaO	0.97	1.01	H ₂ O ⁻	3.34
Fe ₂ O ₃		0.11	H ₂ O	n.d.
			Total	84.66
				99.97

(1) Foveaux Formation, Bluff Peninsula, New Zealand; electron microprobe analysis; corresponds to Na_{2.51}K_{1.13}Ca_{0.17}Mg_{0.02}(Al_{4.08}Si_{7.93})O₂₄·nH₂O. (2) Biggest 'Faraglione' facing Aci Trezza, Sicily, Italy; corresponds to Na_{3.11}K_{1.05}Ca_{0.19}Mg_{0.06}(Al_{4.53}Si_{7.40})O₂₄·11.47H₂O.

Mineral Group: Zeolite group, chabazite series.

Occurrence: In volcanic rocks as basalts, andesite; rarer in limestones and schists; hydrothermally deposited in cavities and joints in ore veins. In tuff in lake deposits, altered from volcanic glass.

Association: Zeolites, nepheline, melilite, olivine, pyroxenes, amphiboles, axinite, epidote, calcite, tridymite, dolomite.

Distribution: Biggest 'Faraglione' facing Aci Trezza, Sicily, Italy [TL]. Analytically confirmed material from Foveaux Formation, Bluff Peninsula, New Zealand.

Name: From the Greek *chabazios*, an ancient name of a stone. A suffix indicates the most abundant extra-framework cation. Chabazite without a suffix is the correct name for a member of the chabazite series that is not specifically identified on compositional grounds.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 589-592. (2) Deer, W.A., R.A. Howie, and J. Zussman (1963) Rock-forming minerals, v. 4, 387-400. (3) Passaglia, E. (1970) The crystal chemistry of chabazites. *Amer. Mineral.*, 55, 1278-1301. (4) Coombs, D.S., C.A. Bosel, Y. Kawachi, and L.A. Paterson (2005) A silica-deficient, shallow-marine zeolite assemblage in the Foveaux Formation, Bluff Peninsula, New Zealand. *Mineral. Mag.*, 69(2), 137-144. (5) Mazzi, F. and E. Galli (1983) The tetrahedral framework of chabazite. *Neues Jahrb. Mineral., Monatsh.*, 461-480. (6) Gualtieri, A.F. and E. Passaglia (2006) Rietveld structure refinement of NH₄-exchanged natural chabazite. *Eur. J. Mineral.*, 18, 351-359. (7) Coombs, D.S., A. Alberti, T. Armbruster, G. Artioli, C. Colella, E. Galli, J.D. Grice, F. Liebau, J.A. Mandarino, H. Minato, E.H. Nickel, E. Passaglia, D.R. Peacor, S. Quartieri, R. Rinaldi, M. Ross, R.A. Sheppard, E. Tillmanns, and G. Vezzalini, (1998) Recommended nomenclature for zeolite minerals: Report of the Subcommittee on Zeolites of the IMA, Commission on New Mineral and Mineral Names. *Mineral. Mag.*, 62, 533-571.