

Supplementary Materials

Mineralogy, geochemistry and genesis of agate – a review

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Table S1. Compilation of investigated agate occurrences with references to presented data and relevant published results, respectively.

Agate occurrence	Host rock	References
<i>Amygdales (basic volcanic rocks)</i>		
Agate Point, Ontario, Canada	basalt	Figures 12, 18, 27, Tables 1, 4 [30,49,107,185]
Agate Island, Ontario, Canada	basalt	Figures 12, 18, 27, Tables 1, 4 [30,49,107,185]
Otter Cove, Ontario, Canada	basalt	Figures 18, 27, Tables 1, 4 [107,185]
Soledade, Rio Grande do Sul, Brazil	basalt	Figures 12, 15, 18, 31, Tables 1, 4 [30,32,49,73,107]
Cachoeira dos Indios, Paraiba, Brazil	?	Figure 23, Table 4 [32,49]
Rancho Coyamito, Chihuahua, Mexico	andesite	Figure 2, Table 4 [49]
Ojo Laguna, Chihuahua, Mexico	andesite	Figures 7, 12, 18,27, Tables 1, 4 [30,36,49,107,185]
San Rafael, Mendoza, Argentina	andesite	Figure 33, Table 4 [49]
El Picado, Los Indios, Cuba	andesitic tuff	Figures 5, 29, 30 Tables 1, 4 [29,49,206]
Whale Bay, Iceland	basalt	Figure 10, Table 4 [49]
Ardownie Quarry, Scotland, UK	andesite	Figures 12, 18, 19, 27, Tables 1, 4 [30,49,107,185]
Montrose, Scotland, UK	andesite	Figures 12, 18, 27, Tables 1, 4 [30,49,107,185]
Heads of Ayr, Scotland, UK	basalt	Table 4 [73]
Idar Oberstein, Rhineland-Palatinate, Germany	andesite/dacite	Figures 12, 13, 18, 24, Tables 1, 4 [30,39,49,107]
Berschweiler, Rhineland-Palatinate, Germany	andesite/dacite	Figure 34 [39]
Freisen, Germany	andesite/dacite	[39,49]
Juchem Quarry, Germany	andesite/dacite	Figure 18, Tables 1, 4 [39,49]
Gröppendorf, Saxony, Germany	melaphyre	Figures 9, 12, 14, 18, 27, Tables 1, 3, 4 [49,107,185]
Fridstejn, Bohemia, Czech Republic	melaphyre	Figures 12, 18, 27, Tables 1, 4 [30,49,107,185]
Sarusa Mine, Namibia	trachyandesite	Figures 12, 18, 27, Tables 1, 4 [30,49,107,185]

Amalia Mine, South Africa	latiteandesite	[49]
Idzevan, Armenia	andesite	Table 4
		[29]
Xuanhua, Prov. Hebei, China	trachyandesite	Figures 2, 4, 21, 22, 24, 33, Tables 1, 4
		[53]

Lithophysae (acidic volcanic rocks)

Richardson Ranch, Oregon, USA	rhyolite	Figures 9, 13, Tables 1, 4
		[49]
Baker Egg Mine, New Mexico, USA	rhyolite	Figure 25, Tables 1, 4
		[36,49]
Cordón de Lila, Chile	rhyodacite/dacite	Tables 1, 4
		[52]
St. Egidien, Saxony, Germany	rhyolitic ignimbrite	Figures 2, 6, 10, 11, 12, 15, 16, 17, 18, 20,
22, 25		Tables 1, 2, 3, 4
		[34,36,37,49,68,73,131,135]
Hohenstein-Ernstthal, Saxony, Germany	rhyolitic ignimbrite	Figure 18, Tables 1, 4
		[34,36,37,49,68,73,135]
Chemnitz, Saxony, Germany	rhyolitic ignimbrite	Figures 11, 14, 18, 25, Tables 1, 3, 4
		[34,36,37,49,68,73,135]
Zwickau, Saxony, Germany	rhyolitic ignimbrite	Figures 18, 25, Tables 1, 4
		[34,36,37,49,68,73,135]
Wiederau, Saxony, Germany	pitchstone	Figures 8, 10, Table 4
Hausdorf, Saxony, Germany	rhyolite	Figures 11, 32, Tables 1, 4
Leisnig, Saxony, Germany	rhyolite	Figure 23, Tables 1, 4
Burgstall, Saxony, Germany	rhyolite	Figure 20, Tables 1, 3, 4
Mügeln, Saxony, Germany	rhyolite	Tables 1, 3, 4
Kemmlitz, Saxony, Germany	rhyolite	Tables 1, 4
Gehlberg, Thuringia, Germany	rhyolite	Figures 12, 14, 18, 27, Tables 1, 3, 4
		[30,36,49,107,185]
Mönchstal, Thuringia, Germany	rhyolite	Tables 1, 4
		[49]
Nesselhof, Thuringia, Germany	rhyolite	Figures 2, 18, Tables 1, 4
		[49]
Novy Kosciol, Poland	rhyolite	Figure 18, Tables 1, 4
		[36,49,69]
Nova Paka, Bohemia, Czech Republic	rhyolite	Figures 12, 18, Tables 1, 4
		[30,107]
Beipiao, Prov. Liaoning, China	rhyolitic tuff (liparite)	Figure 14, Tables 1, 4
		[53]
Lyjiazhuang, Prov. Hebei, China	rhyolitic tuff (liparite)	Tables 1, 4
		[53]
Pujiang, Prov. Zhejiang, China	rhyolite	Figure 32, Table 4
		[53]

Hydrothermal vein agates

Röthenbach, Saxony, Germany	vein agate	Figure 2, Tables 1, 4
		[49]
Schlottwitz, Saxony, Germany	vein agate	Figures 3, 18, 19, 26, 27, Tables 1, 3, 4
		[30,49,73,107,185]
Halsbach, Saxony, Germany	vein agate	Figures 14, 18, 27, Tables 1, 4
		[30,33,49,107,185]
Cerny Halze, Czech Republic	vein agate	Table 4
		[49]
Bamaku, Mali	vein agate	Tables 1, 4
		[35]

Redeposited volcanic agates in sediments

Agate Creek, Queensland, Australia	agate in river sediments	Figure 34, Table 4 [49]
Nanjing, Prov. Jiangsu, China	agate in river sediments	Figure 2 [49]

Agates formed in sedimentary rocks

Prior Mountains, Montana, USA	limestone/siltstone	Figures 15, 18, Tables 1, 4 [31,33,36,49,73,131]
La Belen, Sierra de Chachahuen, Argentina	sandstone	Figure 33, Table 4 [49]
Dulcote, Mendip Hills, England	clay/limestone	Figure 2, Table 4 [49]
Rutba, Western Desert, Iraq	sandy sediments	Figure 26, Table 4 [49]

Agates with biosignatures

Gyöngyöstarján, Mátra Mts., Hungary	andesite	Figure 34, Table 4 [33,49,220]
Jalna, Jalgaon/Savda, India	basalt	Figure 34, Table 4 [78,195]

Agates in silicified wood

Chemnitz, Saxony, Germany	rhyolitic tuff	[36,49]
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“Carbonate agate”

Krásný Dvoreček, Bohemia, Czech Republic	melaphyre?	Figure 21, Table 4 [38]
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