Yasuhiro Takai, while working at the Department of Earth and Planetary Sciences in Kyushu University (present affiliation; Enecom Co. Ltd), discovered the new mineral hizenite-(Y) (International Mineralogical Association number IMA2011-30). Hizenite-(Y) was discovered in a druse in an alkali olivine basalt (the Higashimatsuura basalt) that occurs throughout the Higashimatsuura Peninsula (Japan). The Higashimatsuura basalt has yielded rare-earth minerals and three new minerals: kimuraite-(Y), kozoite-(Nd) and kozoite-(La). The type locality of hizenite-(Y) is the same as that of kozoite-(La). Rhabdophane-(Y) (IMA2011-31) which is rare-earth phosphate, was also discovered from the Higashimatsuura basalt by Dr. Takai. Hizenite-(Y) occurs as platy crystals and forms radial aggregates in very close association with tengerite-(Y) and lokkaite-(Y). Hizenite-(Y) is white in color and translucent to transparent. It has a vitreous to silky luster on cleavage planes, which are perfect on [001]. The ideal formula is Ca$_2$Y$_6$(CO$_3$)$_{11}$·14H$_2$O. Hizenite-(Y) is a member of tengerite family, which includes the mineral species tengerite-(Y), kimuraite-(Y), and kozoite-(Y). The dimensions of the $a$ and $b$ axes of hizenite-(Y) are similar to those of the other tengerite-family minerals. Hizenite-(Y) has an alternating structure of kimuraite-(Y) and lokkaite-(Y) in a one-to-one relation along $c$ axis. The name ‘Hizen’ is for the classic name of the locality of the mineral, and now, it remains as the name of town in Karatsu City, Saga prefecture.