

**New 25 million year old fossil fish named after local collector.**

**Victoria, BC** – Not every outing ends in an exciting new fossil find. Even more thrilling is to have the fossil named after you. Just published – a rare new Chimaeridae fish (mandibular dental plate) is named *Canadodus suntoki* by researcher Dr. Evgeny Popov in this month’s Journal of Vertebrate Paleontology. Local collector Steve Suntok found the rare fossil near Sooke, BC and donated it to the Royal BC Museum in 2014.

The new name means “tooth from Canada” and also honourably acknowledges Suntok as the collector. Suntok is recognized for his careful and responsible collecting techniques, fossil site documentation, and diligence where important fossils are brought to the attention of scientists and donated to a research institution.

Chimaeridae are a family of cartilaginous fishes that typically have short rounded snouts and long tapered tails. These fishes rarely preserve well in the fossil record therefore making this fossil find of high importance. The fossil dental plate (the hardest part of this fish) may be the only part preserved. It is broad and strong indicating that the fish probably fed on invertebrates by using its dentition to crush shells to extract the nutritious animal inside.

Paleontological science involves a global community of experts who readily exchange knowledge digitally. Lead author of the scientific paper, Dr. Evgeny Popov from Russia, is a prominent world expert on fossil holocephalian fishes. He studied and described the fossil in detail. After considerable review of scientific literature, he concluded that the fossil was a new genus and species. He provided a broad comparison with other fossil chimaeroid material deposited in museums around the world (USA, Belgium, Germany, England and Australia). He then chose the new names and published his research.

Co-author Marji Johns is a local paleontologist. She currently studies 25 to 40 million year old microscopic fossils and the geology of the fossil-bearing Carmanah Group strata found along the west coast of Vancouver Island. Her research provides information on marine fossil occurrences, the age of fossils and their enclosing rocks, past sea level changes, other environment indicators, and plate tectonics which resulted in ocean floor and island terranes colliding with Vancouver Island over the last ~50 million years.

Johns is always thrilled to hear when new fossils are found by amateur collectors. They are the “eyes” that find unusual fossils. Today, there are only a few paleontologists in BC/Canada available to do field work and research – but there are many volunteer collectors excited about paleontology.

The Suntok family are skilled fossil collectors. They have discovered many fossils near Sooke and donated important ones to the Royal BC Museum. Notably, a coracoid bone of a new water bird was found by Suntok’s daughter on a family outing. In 2015, it was identified and named *Stemec suntokum* by Royal BC Museum research associate Gary Kaiser. Suntok has added to the Museum’s Sooke-area fossil collection: whale vertebrae specimens, ribs, a seal bone, a potential terrestrial mammal bone, fish bones, fossil leaves, and many invertebrate fossils (snails, clams, mussels, oysters, corals, brachiopods, barnacles, echinoderms, and tubeworms).

**Fossil Site History.**

The cliff faces along Muir Creek and Kirby Creek beaches northwest of Sooke easily contain the richest exposures of fossils near Victoria. It is a beautiful area to hike, view fossils, and compare them to modern coastal sea life.

The diverse ~25 million year old fossils and geology at the site reveal that it was an ancient beach not all that different in appearance from today where waves crashed along the shoreline. Through wave action, some of the ancient animals were concentrated in shell coquinas or lag deposits and later buried. Plate tectonic processes and sea level changes followed. The rocks and fossils were eventually uplifted and exposed in today’s tidal area and several metres above the high tide line.

During the late 1890s, Charles Newcombe (BC Provincial Museum) was one of the first to collect and document fossils from the Sooke area. The fossil site and Sooke Formation rocks and fossils were described by other scientists in the early 1900's from the Geological Survey of Canada and the University of California.

Over the last ~30 years, members of the Victoria Palaeontology Society have regularly led educational tours and visited the sites. Scientifically important and newly discovered fossils are donated to local museum collections.

### **Fossil Viewing and Collecting Etiquette.**

On Vancouver Island, fossils may be viewed at the Royal BC Museum, Qualicum Beach Museum, and Courtenay Museum and Palaeontology Centre.

For those interested to learn more about Vancouver Island paleontology and touring sites, please contact the Victoria Palaeontology Society (Victoria), Vancouver Island Paleontological Museum Society (Qualicum Beach), or the Vancouver Island Paleontological Society (Courtenay).

To learn more about fossil collecting etiquette please visit the BC Paleontological Alliance or the Province of BC's Fossil Management Web sites.

### **Research paper title:**

“A new genus of chimaerid fish (Holocephali, Chimaeridae) from the Upper Oligocene Sooke Formation of British Columbia, Canada.”

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fossil fish dental plate: occlusal & labial views (photos by Steve Suntok)

