

# PULI BRIDGE

Puli Bridge is a suspension bridge near Xuanwei, Qujing, China. The bridge, at 485 m (1,591 ft), is one of the highest in the world. The bridge forms part of the G56 Hangzhou–Ruili Expressway between Liupanshui and Xuanwei and was opened in August 2015. The bridge and associated expressway reduced the travelling time from Xuanwei to the

Guizhou border from four hours to one hour. The bridge crosses a small stream beside the Gexiang River gorge. These arches, with a span-to-rise ratio of 5.3:1, give the bridge an unusually flat profile, and were unsurpassed as an architectural achievement until the late Middle



Ages. Today, the structure is largely buried by river sediments and surrounded by greenhouses. Despite its unique features, the bridge remains relatively unknown, and only in the 1970s did researchers from the Istanbul branch of the German Archaeological Institute carry out field examinations on the site. No information on the bridge survives from ancient sources. The first descriptions appear in European travellers' accounts from the 19th century. The British archaeologist Charles Fellows was the first to explore the region of Lycia, and visited the bridge in May 1840. Fellows, as well as T.A.B.

# HISTORY

The Puli Bridge has a main span of 628 meters (2,060 feet) and a total length of 1,040 meters (3,410 feet). The road deck is 24.5 meters (80 feet) wide and the main suspension cables are 26 meters (85 feet) apart. The bridge cost 440 million yuan

(about US\$71 million). Similar to the Sidu River Bridge, the first cable used to erect the span (the pilot cable) was placed using a rocket.

At the time of Wurster's and Ganzert's visit to the site, the entire bridge was buried by river sediments up to the springing line of the vaults. No efforts to dig them up were undertaken by

Wurster and Ganzert. Only two of the

28 arches were exposed enough so that direct measurements of the clear span and the pier width could be undertaken. It was, however, possible to calculate the dimensions of the remaining bays from their exposed sections.

Only in a single case, between arches 26 and 27, were Wurster and Ganzert able to determine the breadth of a pier: 2.10 m (6.9 ft). Subtracting this value from the common arch span of 12.75 m (41.8 ft), a clear span of 10.65 m (34.9 ft) remains. Since all arches have a rise of ca. 2 m (6.6 ft), the has an unusually large span-to-rise ratio of 5.3 to 1.

Such flattened arches were very rare at the time for stone bridges, and were not matched and surpassed

