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(5500) TWILLEY

M. Conjat, Observatoire de la Cote d'Azur (using a 0.40-m telescope at Nice Observatory); R. Montaigut, Club d'Astronomie de Lyon Ampere, France; D. Augustin (using a 0.14-m refractor at "Deep Sky Chile", Pichasca, Chile, and with C. Pinturaud using the IRiS-OCEVU 0.50-m telescope at Haute-Provence Observatory); R. Behrend, Geneva Observatory, Switzerland; and P. Griveaud, D. Mata, and J.-P. Rivet, Observatoire de la Cote d'Azur (using a 1.0-m telescope at Calern Observatory, France) report that photometric observations taken during Feb.-Mar. 2017 and during Nov.-Dec. 2019 reveal that minor planet (5500) Twilley is a binary system with an orbital period of 17.556 +/- 0.008 hr. The primary shows a period of 2.9554 +/- 0.0002 hr with a light-curve amplitude of 0.15 magnitude at solar phases 18-3 degrees, suggesting a nearly spheroidal shape. Mutual eclipse/occultation events that are 0.08 to 0.13 magnitude deep indicate a lower limit on the secondary-to-primary mean-diameter ratio of 0.27.