Mukherjee, S.S., Lough, T., Hopcroft, D.H., and Castello, J.D. 2012. New

tombusviruses isolated from surface waters in New Zealand. Australasian

Plant Pathology 41:79-84.

**Abstract** Water samples f rom Turitea Creek and the Manawatu Riv er near

Palmerston North, New Zealand were assay ed f or inf ectious plant v iruses.

Twenty liter water samples each were pref iltered and v irions adsorbed onto

electropositiv e Zeta Plus 50S membranes. Eluates were examined f or

v irions by transmission electron microscopy . Icosahedral particles with a

diameter of 30 nm with no distinct capsomere arrangement were observ ed.

Two distinct tombusv irus isolates were suspected based on sy mptoms in

*Vigna unguiculata*. An A260/280 = 1.64, and a buoy ant density in CsCl = 1.35

supported the conclusion that both isolates were tombusv iruses. Maximum

Parsimony trees generated f rom the deduced amino acid sequence of an

820 bp amplicon within the p33 (RdRp) gene and the entire capsid protein

gene (1100 bp) showed maximum similarity of the isolates f rom Manawatu

riv er and Turitea creek with Cucumber bulgarian latent v irus (60% and 64%,

respectiv ely ) in the p33 region, and with Maize necrotic streak v irus (83%)

and Cy mbidium ringspot v irus (76%), respectiv ely , in the capsid protein

region. In accordance with the species demarcation criteria of <87%

sequence identity in the capsid protein amino acid sequences established

by the ICTV, it is suggested that both isolates are new tombusv iruses, f or

which we propose the names Turitea creek v irus (TuCV) and Manawatu

riv er v irus (ManRV). This is the f irst report of tombusv iruses in New

Zealand.