# The nucleotide sequence of Cymbidium ringspot virus RNA

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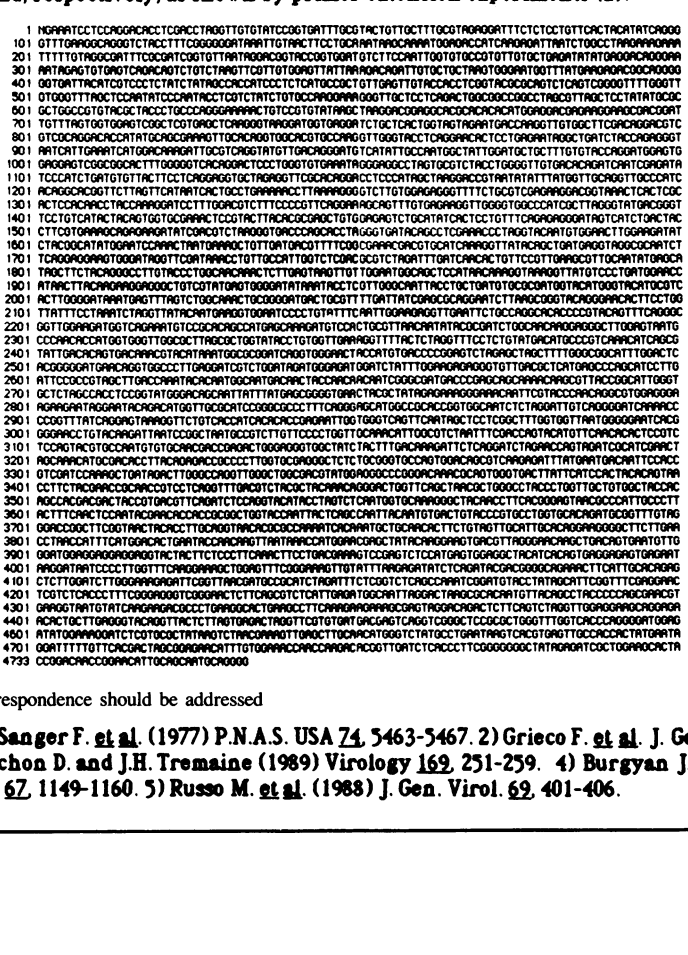
**The complete nucleotide sequence of cymbidium ringspot virus (CyRSV, a tombusvirus) was determined using the dideoxy chain termination method (1) on pUC-cloned cDNA templates or purified RNA. Sequencing strategy of the RNA 3' region is reported elsewhere (2). The RNA is 4733 long and contains five open reading frames (ORF) coding for proteins with $M_r$ 32,885 (33 K), $M_r$91,678 (92 K), $M_r$40,554 (41 K), $M_r$ 21,295 (22 K), and $M_r$ 19,373 (19 K). The corresponding gene positions are: 161-1048 (33 K); 161-2614 (92 K); 2629-3768 (41 K); 3813-4379 (22 K); 3845-4360 (19 K). The 92 K protein is derived by readthrough of the leaky amber termination codon of the 33 K protein. Computer analysis of the sequence encoding the 33 K and the 92 K proteins shows extensive similarity with the corresponding region of cucumber necrosis tombusvirus (CNV; 3); this region may therefore code for the viral replicase. The 41 K protein is the virus coat protein (2). The 22 and 19 K proteins are encoded by two nested ORFs, but only the 22 K product has been detected in vivo and in vitro (4, 5). Expression of the coat protein and 22 K genes requires two specific subgenomic RNAs which start at nucleotide position 2118 and 936 from the 3' end, respectively, as shown by primer extension experiments (2).**



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References: Sanger F. et al. (1977) P.N.A.S. USA 74, 5463-5467. 2) Grieco F. et al. J. Gen. Virol. (in press). 3) Rochon D. and J.H. Tremaine (1989) Virology 169, 251-259. 4) Burgyan J. et al. (1984) J. Gen. Virol. 67, 1149-1160. 5) Russo M. et al. (1988) J. Gen. Virol. 69, 401-406.