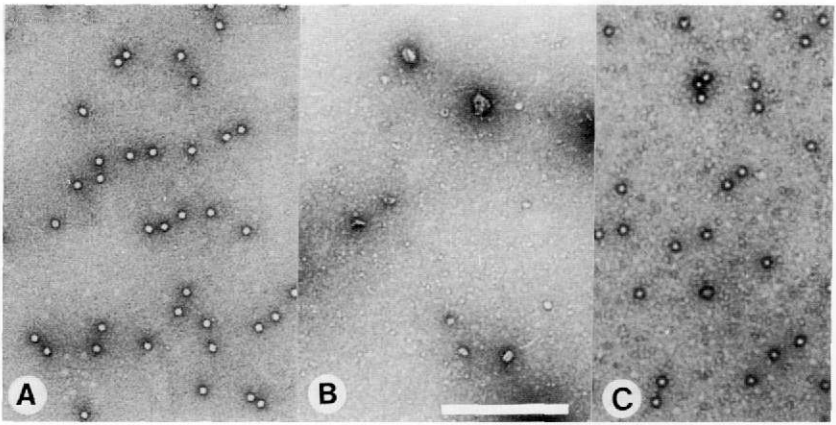

Figure 5. Electron micrographs of highly purified cowpea mosaic virus at a starting concentration of 2.5 mg/ml. *A*: virus preparation mixed vol/vol with buffer. *B*: virus preparation mixed vol/vol with a low speed supernatant of healthy cowpea expressate. *C*: virus preparation mixed vol/vol with a low speed supernatant of healthy cowpea expressate which had been clarified with *n*-butanol. These figures, although typical of the grids from which they were selected, were chosen to give graphic representation to the exact particle percentages which are reported in Table 2. All of the micrographs are at the same magnification. The preparations were stained with 2% uranyl acetate using the washing and staining technique described in Appendix 2. *Bar* = 500 nm.

Discussion

The CVC procedures facilitate the detection of virions by electron microscopy. Particles were considerably more numerous in the CVC preparations than in the unprocessed controls, owing both to the concentration of virions and to the removal of sap components, some of which compete with the virions for the available adsorption sites on specimen grids. Actual concentration of virus took place when virions were precipitated by PEG, concentrated into a pellet by centrifugation, and finally resuspended in a volume of buffer smaller than the starting volume. Clarification of virus extracts with solvents was proven to eliminate many of the virus-competing elements that are found in crude preparations. CVC processing can take place in less than 2 hours, and the small table model centrifuge used in the procedure allows for the handling of multiple samples. The polypropylene and polyethylene centrifuge tubes used in the procedure with-