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ACKNOWLEDGEMENT. This study was funded by the Ministry of Environment and Forests, Government of India, New Delhi.

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Nomenclature of super heavy elements

Scientists of different countries have made different claims on synthesis of new elements. As their methods of identification were different, the criterion for discovery of elements¹ remained under dispute for a long time. Hence, the literature has reports on the same element with different names and symbols, which leads to confusion. Recent changes by IUPAC² in the names of elements 101-109 have evoked mixed reactions, especially in USA. This is because some old names have been reassigned different atomic numbers, in an effort to solve the dispute.

Some actinide elements were named after the place of discovery in accordance with their rare earth counterparts. For example, eka-Europium was named Americium, and eka-Terbium was named Berkelium. It is interesting to note that eka-Hafnium (104) has aptly been christened after Dubna, just as Hafnium was named after Copenhagen (Hafnia in Latin). The elements with atomic numbers

105 and above have been named after eminent scientists. (105 - Joliotium (Jl); 106 - Rutherfordium (rf); 107 - Bohrium (Bh); 108 - Hafnium (Hn); 109 - Meitnerium (Mt)). The earlier name Seaborgium suggested by the Berkley group for element 106 has not been accepted by IUPAC because it does not favour naming the elements after scientists who are alive. Some subtle changes have occurred with respect to symbols: Mv, Lw and Ha have now become Md, Lr and Hn, respectively³⁻⁵.

Elements yet to be ratified are given temporary appellation derived from the following unique Greek/Latin roots⁶: 0 = nil; 1 = un; 2 = bi; 3 = tri; 4 = quad; 5 = pent; 6 = hex; 7 = sept; 8 = oct; 9 = enn. Instead of this system, a simpler representation with Z is also followed. For example, (110)O₂ is the dioxide of the element ununnilium (Unn).

Worldwide acceptance of the recent IUPAC recommendations⁷ would end the

confusion that prevails in the naming of these 'superheavy' elements.

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