The reported work on the alkaloids of Datura species and the interpretation of these results of experiments on biogenesis of these alkaloids is so very conflicting that a general hypothesis or general scheme cannot be evolved.\textsuperscript{5,11,12,34} The results presented here can be viewed in one respect, that is, it may be due to the ecological conditions that the three Datura species growing at Ahmedabad, show nearly the same behaviour as regards the percentages of different alkaloids in different parts of the plants.

Hyoscyamine is the alkaloid present more in the roots of these species, while in the aerial parts, there is a fluctuation in the percentages of different alkaloids. But generally it is about unequal mixture of hyoscine and hyoscyamine in case of leaves, herbs and flowers. In case of seeds and pericarps, hyoscine is nearly double or more, than hyoscyamine. In general our findings for roots in D. innoxia agree with those of others, at the age mentioned for the plant.\textsuperscript{13} In case of aerial parts it agrees with the findings of Steineger and Gessler, for D. innoxia.\textsuperscript{12}

Our results lend support to the general belief in India, that D. metel var fastuosa is more poisonous than D. metel.
In these three plants a good amount of total alkaloids is present, but the hyoscine/total alkaloid percentage is always more than 25 and reaches up to 90.

* Datura Stramonium and D. tatula (D. atrimonium var tatula) are used mainly for their hyoscyamine content. Looking to that, it appears that D. metel, D. metel var fastuosa and D. innoxia are not good representatives, of stramonium. Further this work supports the contention that Solanaceous drugs, because of reported variation in the content of their alkaloids, should be assayed on the basis of individual alkaloids. Pharmacopoeial methods are based on the calculation of total non-volatile alkaloids as hyoscyamine. But other alkaloids and bases are also calculated in these methods. The other alkaloids like hyoscine possess qualitative difference in therapeutic properties, while bases are therapeutically inactive. These bases are present especially in extracts, not prepared properly. In these cases chemical assay and therapeutic evaluation will be quite different. It is suggested that pharmacopoeial method should take into consideration these points in evolving an assay method for solanaceous drugs.*