

CFA '18 LE HAVRE ■ 23-27 avril 2018
14^{ème} Congrès Français d'Acoustique



**The Secret Life of the Monstre Acoustique: Factors Affecting
Intonation and Timbre of Serpents**

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In 1972 Emile Leipp published an article in which the musical wind instrument called the serpent was described as a 'monstre acoustique'. It is true that some features of the construction of serpents, most significantly the diameter and spacing of the side holes, are inconsistent with generally accepted acoustical design principles for successful wind instruments. Nevertheless, the serpent continued in regular use in church music for more than two centuries after its invention in the late sixteenth century, and appeared in numerous orchestral scores in the first decades of the nineteenth century. Recently several virtuoso performers have demonstrated that the monstrous reputation of the serpent's acoustics is perhaps undeserved, and requires some reconsideration. The present paper reports input impedance measurements on a number of serpents and related side-hole labrosones. Analysis is carried out on the relationship between fingering patterns, resonance frequencies, and the pitches and timbres of playable notes.