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Twists, turns and trade: a new look at the Indian
Screw tree (*Helicteres isora*)

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Abstract

Ethnopharmacological relevance

This is the first study of global trade in fruits of the widely used traditional medicine, *Helicteres isora* L.. It is used in Ayurvedic, Siddha, Unani medical systems and/or local folk traditional medicines in Bangladesh, India and Pakistan. The roots are used in Traditional Chinese Medicines in China and the fruits in *jamu* products in Indonesia, Malaysia and Thailand. In addition, *H. isora* fruits are also used in "traditional" medical systems far beyond the natural distribution of this species, for example in Zulu herbal medicine (South Africa) and Kurdish herbal medicines (Iraq)

Aims of the study

This study had three aims: (i) to assess the global trade in *H. isora* fruits; (ii) to study the *H. isora* trade from West Timor to Java in terms of actors and prices along the value chain and (iii) to get a better understanding of the potential of this species to improve household income in eastern Indonesia

Materials and Methods

This study uses historical records, a contemporary analysis of global trade data (2014-2016) and field assessments of value chains and the biological factors influencing *H. isora* fruit production.

Results

Globally, the major exporter of *H. isora* fruits is India, which exports *H. isora* fruits to 19 countries, far beyond the natural geographical distribution of this species. Over a 36-month period (January 2014 – December 2016), India exported 392 tonnes of *H. isora* fruits, with a Free-On-Board (FOB) value of Indian rupiah (INR) 18,337,000 (US\$ 274,055). This represents an average annual export quantity of about 130,526kg/year. Over this three year period, most of these exports (85.5%) were to Indonesia (346.58 tonnes), followed by Thailand (6.85 %). Indian *H. isora* exports are also used in many other medical systems, including Kurdish and Zulu "traditional" medicines in Iraq and South Africa. Formation of an Indian diaspora in Bahrain, Mauritius, South Africa, Tanzania and Trinidad and Tobago over the past 130 years is one of the drivers of *H. isora* fruit trade outside the natural geographic distribution of the species. In Indonesia, demand for *H. isora* fruits is supplemented by an intra-island trade in Java and an inter-island trade from East Nusa Tenggara. West Timor, for example, exports around 31-37 tonnes of air-dried *H. isora* fruits per year to Java. At the farm gate, local harvesters in West Timor get 4000 IDR (c. 0.3 US\$) per kg, with businesses in Java paying

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