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Trade in wild-sourced African grey parrots: Insights via social media

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ABSTRACT

The rise of social media is changing the global trade of wildlife, presenting new challenges and opportunities for regulating and monitoring trade in threatened species. Parrots are among the most threatened groups of birds with wild populations of many species exploited in large numbers to supply the global pet trade. This trade increasingly occurs online yet the role of social media remains poorly understood. We examined trade in wild-sourced Grey parrots between 2014 and 2017, integrating data gathered via social media with other information sources and expert knowledge to gain insight into the scale and scope of trade. We identified 259 posts featuring trade in wild-sourced Grey parrots showing parrots held in transport containers or holding facilities. At least 70% of posts featured trade likely in breach of national laws or CITES regulations and basic welfare conditions were frequently not met. An examination of the locations of traders together with ancillary information enabled us to describe a number of opportunities for interventions to disrupt illegal trade, including major trade routes. Overall levels of trade activity, measured as numbers of posts, showed surprisingly little variation over time with the exception of a spike in activity in the months immediately proceeding new restrictions on international trade in wild-sourced Grey parrots for commercial purposes. Throughout the study period, the majority of exports originated from the Democratic Republic of Congo, with smaller numbers of posts from traders in Cameroon, Guinea and Ivory Coast. The trade activity of importers was more dynamic with North Africa playing a diminishing role and countries of the Persian Gulf increasing in prominence. The majority of importers were based in western and southern Asia, notably Turkey, Pakistan, Jordan and Iraq most recently. Turkey also played a prominent role as a transit point for air transport between Africa and Asia. There is an urgent need for targeted actions by airlines and enforcement agencies to disrupt illegal trade and by social media companies to improve monitoring and regulation of wildlife trade online.

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Abbreviations: CITES, Convention of International Trade in Endangered Species of Wild Fauna and Flora; DRC, Democratic Republic of Congo.

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1. Introduction

Improvements in communications and transport infrastructure have led to an increasingly globalised world, facilitating international trade in wildlife as never before. Although such changes often enhance opportunities for economic gain - particularly in less developed countries - inadequately managed trade has been linked to a number of issues of conservation, economic, human health and animal welfare concern. These include the overexploitation of wild populations (Annorbah et al., 2016; Khelifa et al., 2017), the establishment of alien species (Cassey et al., 2004, 2015; Carrete and Tella, 2008), the spread of infectious diseases (Karesh et al., 2007; Varsani et al., 2011; Harkins et al., 2014; O'Hanlon et al., 2018), and the failure to meet basic animal welfare requirements (Baker et al., 2013). Understanding patterns of trade and the processes that drive them is critical for the development of informed wildlife trade interventions to effectively balance the opportunities and threats it presents (Challender et al., 2015).

The increasing use of the internet in the trade of wildlife, is a major challenge for effective regulation of trade (Sajevo et al., 2013; Lavorgna, 2014). A variety of online platforms, including online marketplaces and social media sites, are used by both legal and illegal traders to facilitate communication with suppliers and customers (Grabosky, 2013; Lavorgna, 2015; Harrison et al., 2016; Bergin et al., 2018). The enhanced connectedness provided by these platforms enables traders to procure wildlife more efficiently and expand their networks and consumer base (Lavorgna, 2014, 2015). This allows new traders and small businesses to establish themselves on the global market at relatively little cost (Brenner, 2002) and furthermore can provide increased anonymity for illegal traders (Grabosky, 2013).

Social media platforms have grown rapidly in recent years, with the largest sites boasting more than two billion users at the start of 2018 (Statista, 2018). E-commerce is being increasingly integrated into these platforms with the launch of services such as Facebook marketplace enabling traders to take advantage of the networking capabilities the platforms provide. Furthermore there are indications that increased regulation of e-commerce websites may be driving wildlife traders to sell via social media (Yu and Jia, 2015). Increasing trade via social media has been highlighted as an emerging threat in the fight against wildlife cybercrime (Lavorgna, 2014, IFAW, 2014, 2018). Growing concerns were reflected in a series of Decisions (17.92–17.96) adopted by Parties to the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the establishment of a working group on wildlife Cybercrime at the 69th meeting of the Standing Committee in 2017.

The monitoring of trade via social media presents a number of challenges compared with more traditional market places; for example trade may happen in closed (non-public) networks or financial transactions may occur through third-parties making them difficult to track and verify (Hinsley et al., 2016; Di Minin et al., 2018). However, the study of trade via social media also presents a number of unique opportunities to gain insight into the structure of trade networks and identify opportunities to disrupt illegal trade (Hinsley et al., 2016; Vaglica et al., 2017). Monitoring of wildlife trade via social media has been identified as a conservation research priority (Yu and Jia, 2015), yet to date there are relatively few published studies that explore the potential of this approach, particularly among some key taxonomic groups that are subject to unsustainable and or illegal trade.

Parrots (order Psittaciformes) have long been trapped in large numbers in the wild for the international pet bird trade (Beissinger, 2001) and this practice is a major threat to wild populations (Martin et al., 2014; Berkunsky et al., 2017). Since the inception of CITES, in 1975 approximately 12 million live parrots have been reported in international trade, 62% of which were reported as either wild-sourced or of unknown origin, (likely also wild-sourced) (UNODC, 2016). The potential threats to wild populations posed by this trade have led to the entire Order being listed in the Appendices of CITES, with the exception of four relatively common species (*Agapornis roseicollis*, *Melopsittacus undulatus*, *Nymphicus hollandicus* and *Psittacula krameri*). Although several studies have examined global patterns of trade in parrots through analyses of trade data reported to CITES (Li and Jiang, 2014; Vall-Ilosera and Cassey, 2017; Poole and Shepherd, 2016; Martin, 2018a; Martin, 2018b) to date there has been little examination of trade through other means, including online platforms (Martin, 2018b).

In this study we carry out the first large-scale and systematic survey of online trade in a parrot species via social media. We focus on Grey and Timneh parrots (*Psittacus erithacus* and *P. timneh*) which we hereafter refer to collectively as 'Grey parrots'. Grey parrots are popular pets in many countries, and among the most traded of all bird species listed on the appendices of CITES (Martin, 2018a). Concerns over the role of trade in declining wild populations (Martin et al., 2014; Annorbah et al., 2016) and the challenges of effectively managing a legal commercial trade in wild Grey parrots (Poole and Shepherd, 2016; Martin, 2018a; Valle et al., 2018) have led to numerous CITES decisions and recommendations regulating international trade, including national export quotas (CITES AC22 Summary Record 10.2), trade suspensions (CITES Notification No. 2013/017, CITES Notification No. 2016/021) and the transfer of Grey parrots to Appendix I at the start of 2017 (CITES Notification No. 2016/063).

We analysed trade activity during a four-year period of regulatory flux (2014–2017) and explored the potential to use ancillary information contained within social media posts together with additional information sources, including government shipment records, airline cargo tracking data, information on the presence of commercial breeding facilities and trade reports published by CITES, to gain further inference into the trade. Specifically we aimed to obtain insight into the scope and scale of trade, trade routes, modes of transport and the extent of compliance with national laws and international agreements.

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