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The importance of effective traceability tools by the example of monkfish (*Lophius spp.*)

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Traceability along the supply chain of fishery products has become established in a greater extent in Europe in the last years. Nevertheless, there are still some issues that need to be brought to mind. Particularly correct labelling along the full supply chain is a prerequisite for offering high-quality fish products. As a result of growing global trade in the last decade, traditional fish species are more and more competing with imported new fish species from all over the world. While a few years ago, exclusively monk fish *Lophius piscatorius* and *L. budegassa*, originating from the Northeast Atlantic and Mediterranean Sea were traded on the European market, nowadays also “new monkfish” species as the Chinese monkfish *L. litulon* from the Pacific or *L. vomerinus* from South Africa are for sale. The new monkfish species are available as low-priced frozen fillets on the German market. This may offer opportunities for fish substitution as well as fraudulence. Especially one and the same German commercial designation “Seeteufel” for all seven monkfish species of the genus *Lophius spp.* could hamper the informed choice. Although legislation requires the scientific name of fish species for unprocessed products, most of the consumers are not aware of the different monkfish species. Therefore, they might often prefer the lower priced fillets, believing to purchase the well-established Atlantic monkfish.

As a consequence, European fishermen and fish industry may suffer from this new product range. Our comprehensive investigations on monkfish aimed to clarify the following questions:

- Are there quality discrepancies among the traditional and new introduced species? and
- Can we differentiate these fish species/products by means of available protein- and DNA-based methods in order to use them as reliable traceability tools? Results should provide transparency in the fish supply chain and retail stores to prevent a negative development in the fishery economy by fraudulent competition as well as to protect consumer against fraud or enable them making the right choice.