1176-30-63 **Alexander Mednykh*** (smedn@mail.ru), Koptyuga pr., 4, Novosibirsk, Russia, and **Ilya Mednykh** (ilyamednykh@mail.ru), Koptyuga pr., 4, Novosibirsk, Russia. *On the number of holomorphic maps from one Riemann surface onto another.*

Denote by $Hol(S_g, S_{g'})$ the set of all the holomorphic mappings from a Riemann surface S_g of genus g onto a Riemann surface $S_{g'}$ of genus g', where $g \geq g' > 1$.

The classical theorem of de Franchis states that the cardinality of the set $Hol(S_g, S_{g'})$ is finite and bounded by a constant depending only on g. Different versions of the upper bound on the cardinality of $Hol(S_g, S_{g'})$ were obtained by Howard and Sommese, Alzati and Pirola, Tanabe, Fuertes and Gonzalez-Diez, Ito and Yamamoto and others. Up to our knowledge, all of them are very far from being sharp.

We obtain an upper bound for the number of holomorphic mappings of a genus 3 Riemann surface onto a genus 2 Riemann surface in a series of cases. In particular, we establish that the number of holomorphic mappings of an arbitrary genus 3 Riemann surface onto an arbitrary genus 2 Riemann surface is at most 48. We show that this estimate is sharp and is attained when the target Riemann surface is the Bolza curve.

Also, we discuss possible generalizations of the de Franchis theorem on high dimensional case as well as on the case of hyperbolic orbifolds. (Received January 12, 2022)