

# Notes on the taxonomy of the species of the genus *Andinoacara*

(Teleostei: Perciformes: Cichlidae: Cichlinae)

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The genus *Andinoacara* has been established only recently by the Czech scientists MUSILOVÁ, ŘÍČAN & NOVÁK (2009) for seven nominal species previously assigned to the '*Aequidens pulcher*' and '*Aequidens rivulatus*' group, respectively. Based on molecular data, the genus may be subdivided into two species groups, one containing *A. coeruleopunctatus*, *A. latifrons* and *A. pulcher*, the other *A. rivulatus*, *A. stalsbergi*, *A. sapayensis* and *A. biseriatus*. Two undescribed forms, *A. spec.* 'Maracaibo' and *A. spec.* 'Orinoco' from Venezuela, are referable to the former. However, morphological autapomorphies supporting this subdivision have yet to be detected.

The species level taxonomy within the genus is currently not well resolved. Therefore, we have given a critical overview of the known facts. The species are arranged in alphabetical order.

***Andinoacara biseriatus* (REGAN, 1913):** This taxon has been described as *Cichlasoma (Aequidens) biseriatum*. This species was apparently never involved in any misidentification or other taxonomic confusion. Type locality is the Rio Condoto, a tributary of the Rio San Juan in northwestern Colombia.

***Andinoacara coeruleopunctatus* (KNER, 1863):** This species has been originally described as *Acara coeruleopunctata*. In some publications, Kner & Steindachner, 1864 are cited as the authors of this taxon. KNER (1863), however, has published the names and short diagnoses of the new species in advance to that paper. Although he clearly stated that he planned to publish a more comprehensive description of the species together with STEINDACHNER, KNER is the only one who is responsible for the publication of the abstract (Kner

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1 <http://www.alice-dsl.net/mesonauta/>

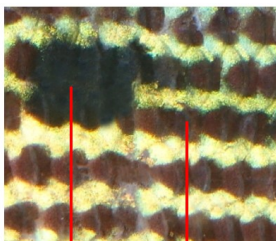
1863). Hence, K<sub>NER</sub> is the sole author of the taxon. Type locality is the Rio Chagres in Panama. With certainty, *A. coeruleopunctatus* is only known from the Pacific slope of Southern Costa Rica and from Panama. It remains to be determined, if 'Blue Acaras' from Northwestern Colombia are referable to this species.

***Andinoacara latifrons* (STEINDACHNER, 1878):** This taxon appeared first in STEINDACHNER (1878) as *Acara latifrons*. Shortly after that, STEINDACHNER (1879) gave a more complete description and treated it as a "Varietät" (= subspecies) of *Acara coeruleopunctata* only. In a subsequent paper, STEINDACHNER (1880) mentioned that he better would have named the species "brevirostris". Sometimes this name has been treated as a junior synonym, but in fact, "brevirostris" is taxonomically not available. The type material was collected near the mouth of Rio Magdalena. The geographical and phenotypic limits of the species require further investigation. Particularly, the differences between *A. latifrons* and *A. pulcher* have to be clarified. Therefore, it is difficult to determine the different forms, which circulate in the aquarium hobby.

***Andinoacara pulcher* (GILL, 1858):** This is the oldest taxon within the genus *Andinoacara*, since it already has been described by Gill in 1858 as *Cychlasoma pulchrum*. The type locality is the island of Trinidad. As mentioned above, the discrimination between this species and *A. latifrons* is unclear.

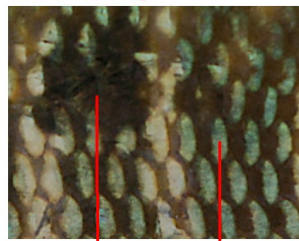
***Andinoacara rivulatus* (GÜNTHER, 1860):** In the early 1970s a cichlid known as 'Silbersaumbuntbarsch' (now *Andinoacara stalsbergi*, see below) was imported to Germany from Peru. Following the knowledge of that time, it was determined as *Aequidens rivulatus*. Barely ten years later, the similar 'Goldsaumbuntbarsch' became popular. Since its origin was unknown, it was thought to be an undescribed species. When WERNER & STAWIKOWSKI (1985) collected in West-Ecuador (type locality of *rivulatus*), they found only the 'Goldsaumbuntbarsch'. Therefore, they concluded that this is *A. rivulatus*, while the 'Silbersaumbuntbarsch' indeed represents an undescribed species. Although specimens of *A. rivulatus* with orange and white fin margins are known, the species is clearly separable from *A. stalsbergi* by the color pattern of the body scales: In *A. rivulatus* the scales have dark centers forming horizontal rows, but they are dark-rimmed in *A. stalsbergi* (see figure below). Despite the many excellent photos published in the aquarium literature, both species were (and sometimes are still) often confused.

*A. rivulatus*



S A

*A. stalsbergi*



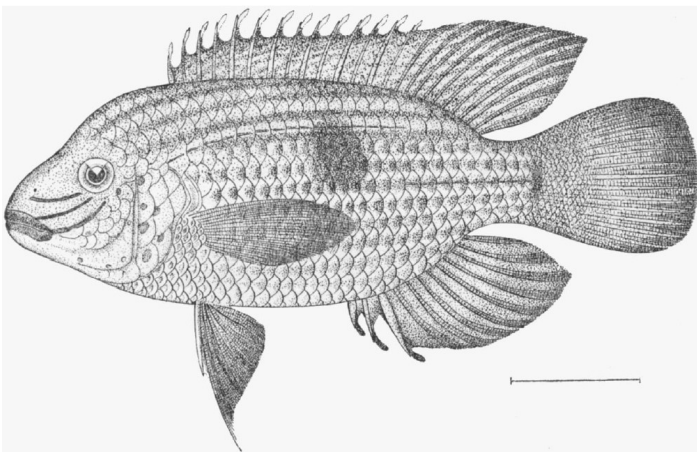
S B

Detailed view of the color pattern of the body scales *Andinoacara rivulatus* (left) and *A. stalsbergi* (right) to illustrate the differences. S = Lateral spot, A = dark center of the scales, B = light center of scales.

According to STALSBERG (2010a), only the population with white-seamed fins from Rio Esmeraldas represents *A. rivulatus*, whereas the 'Goldsaubuntbarsch' is another species, which he labeled as *A. aequinoctialis*. However, a closer look at the history of the taxon reveals, that this is not substantiated: *A. rivulatus* has been originally described by GÜNTHER (1860a; often the date of publication is erroneously given as 1859, but see ESCHMEYER & FRICKE 2010) as *Chromis rivulata*, based on several specimens up to 4 inches long, collected by L. FRASER. The supposed "type", to which Regan (1905) has restricted *A. rivulatus*, is much larger (136 mm). In all probability, this specimen was contained in a further collection from Esmeraldas (Western Ecuador) by FRASER, which was examined only subsequently to the original description (GÜNTHER 1860b). Anyway, the specimen in question cannot belong to the type series of *Chromis rivulata* due to its size. The actual syntype series of *C. rivulata* includes (besides two specimens recently discovered in the ZMB collection) the four specimens, which REGAN (1905) designated as types of his new species *Acara aequinoctialis*. Therefore, *A. aequinoctialis* is an objective junior synonym (same syntypes), which must not be used to denote a distinct taxon. Likewise, there is no reason to restrict the type locality of *A. rivulatus* to Rio Esmeraldas, for it is given no more precisely as "Andes of Western Ecuador" (as per title) in the original description.

Furthermore, the distinctness of the Esmeraldas form remains to be demonstrated. In any case, the color of the fin margins is not diagnostic for being polymorphic in some populations. Therefore, we see currently no better option than to follow KULLANDER (2003) in including all populations from the Rio Esmeraldas drainage in the north to the Rio Tumbes in the south in *A. rivulatus*. Another synonym is *Aequidens azurifer* FOWLER, 1911, described from the Rio Chimbo drainage, the figured holotype (see reproduction below) leaves no doubts about its identity with *A. rivulatus* as currently understood.

Recently, a population of *A. rivulatus* was discovered near Zamora (Ecuador) in the Upper Amazon drainage (STALSBERG 2010b). If this is a natural or an introduced population, needs further investigation.



First drawing of *Andinoacara rivulatus*.  
Holotype of *Aequidens azurifer*  
FOWLER, 1911.

***Andinoacara sapayensis* (REGAN, 1903):** In the 1980s, a species of the *A. pulcher* group was known under this name in the aquarium hobby (at least in Europe). However, it is most likely that it was a misidentification. The species was described by Regan as *Acara sapayensis*. He based the taxon on a single specimen of 114 mm total length. The type locality is the Rio Sapayo in northwestern Ecuador (an affluent of Rio Cayapas, Rio Santiago drainage). EIGENMANN (1922) reports this species also from the Rio Patia system in southeastern Colombia.

***Andinoacara stalsbergi* MUSILOVÁ, SCHINDLER & STAECK, 2009:** In the older scientific literature (and consequently in the aquarium hobby too) this species has been usually identified as *Aequidens rivulatus*. Only in 1985, WERNER & STAWIKOWSKI were able to recognize that the cichlid known as 'Silbersaubuntbarsch' represents an undescribed species. The description was published in 2009 in the scientific journal "Vertebrate Zoology" and is available online:

[http://www.vertebrate-zoology.de/vz59-2/02\\_Vertebrate\\_Zoology\\_59-2\\_Musilova.pdf](http://www.vertebrate-zoology.de/vz59-2/02_Vertebrate_Zoology_59-2_Musilova.pdf)

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