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Type Catalogue of the Ichthyological Collection of the Zoologische Staatssammlung München. Part II: Fish types inventoried after 25 April 1944

(Pisces)

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Part I of the ichthyological type catalogue of the ZSM (Neumann 2006) reviewed the historic "Old Collection", of which types were apparently lost in the Second World War. Part II refers to type material physically available in ZSM, including historic types saved and re-inventoried. Rebuilding the ichthyological collection after the war, Otto Schindler received with the so-called "Kähsbauer Donations" historic fish specimens from the Naturhistorisches Museum Wien (NMW). Among them are types from the Natterer and Thayer expeditions to Brazil, from the Haseman expeditions to South America and from Steindachner's late Brazil expedition in 1903. As far as possible, exchanged specimens were critically reviewed, traced to original lots and compared with NMW acquisition entries for unambiguous identification. Additional historic type material was recovered from the "Zoologische Präparatesammlung der Ludwig-Maximilians-Universität München" (ZPLMU), i.e. the illustrated syntype of *Loricaria rostrata* from the Spix Collection and syntypes from the Sagami Bay collected by Haberer and Doflein (i.e. *Ditrema temminckі* var. *jordani* and *Leptocephalus lacrymatus*). The use of the two museum abbreviations "ZSM/LIPI" and "ZSM/CMK" for type material established during the curatorship of M. Kottelat at ZSM is clarified; material published with either abbreviation was neither intended for final deposition nor is available in ZSM. The whereabouts of material published as "ZSM" by Kottelat are discussed. Presently, the ZSM ichthyological collection contains 1735 type specimens: 53 holotypes, 28 syntypes, 4 neotypes, 2 lectotypes, 24 paralectotypes and 1624 paratypes of 166 nominal species representing 12 families. A total of 541 type specimens (36 holotypes and 505 syntypes) representing 51 families was lost during World War II. Since 1993, 24 holotypes, 5 neotypes and 11 paratypes are missing from the collection. The fate of the ZSM types of *Chromidotilatpia bosumtwensis* Paulo, 1979 needs further research.

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Introduction

From the old historic collection only 300 lots survived the war. Most lots contain single specimens, which were evidently on display in the Natural History Cabinet dating back to Siebold's curatorship. They had been separated from the scientific collection in the early 20th century for the public part of the museum and were apparently evacuated separately from the cabinet of natural curiosities during World War II (Kraft & Huber 1992). Few other specimens were likely saved because they were loaned to other museums and returned after the war. However, many of these historic specimens lost their data because they were either shipped or returned without documentation and / or original labels, or because their original lot numbers could not be re-identified since pre-war ZSM-inventories were also destroyed.

Otto Schindler, who became the first curator of the ichthyological section after the war in 1949, contributed much to the rebuilding of the ichthyological collection in ZSM. He properly revised the remains of the collection, and inventoried and identified lots with insufficient data as "Alte Sammlung" [Old Collection] with a new post-war numbering ranging from ZSM 1 to roughly ZSM 330. Only a few lots of the historic pre-war collection retained data that allowed proper re-identification; or, because Schindler had already worked as an assistant in the collection in 1939, he restored / assigned information of single lots he knew from pre-war times (i. e. syntypes of *Arges theresiae*, *Pimelodella yuncensis* and *Mochocus brevis*). Type material of species described prior or during the war from specimens Schindler collected (i. e. *Pyrrhulina macrolepis*, *Cheirodon kriegi* and *Sternarchus paranaensis*) were apparently secured by Schindler in his private collection and subsequently inventoried after the war.

In addition to Schindler's restored information on historic type lots in the early 1950s, it was possible to trace and restore further data and type material in the course of the GBIF project (Global Biodiversity Information Facility) in 2005. Based on the information of single collections and persons in the chronicle of Balss (1926), a type search in July 2005 in the ZSM and the ZPLMU collections revealed additional historic types which were previously considered lost.

Historic material exchanged to ZSM after World War II.

The Kähsbauer Donations from the Naturhistorisches Museum Wien (NMW)

In his efforts to re-build the ZSM ichthyological collection after the war, Schindler received historic fish specimens from the Vienna and Stockholm collections. The majority of the historic specimens available in ZSM today were part of the so-called "Kähsbauer Donations", which Schindler received from the Naturhistorisches Museum Wien (NMW). Kähsbauer, during his ichthyological curatorship of NMW, distributed and donated to collections throughout Europe historic material of the NMW collection including type material. Two smaller collections of NMW material with 58 and 57 lots were transferred to Munich in 1952; an additional 196 lots reached Munich apparently in April 1953. These donations mainly include loricariids, pimelodids and cichlids as well as some characids. They were collected by Steindachner during the Thayer and Hassler expeditions to Brazil, are from Steindachner's late expedition to Brazil in 1903, or are from material collected by Haseman during his expedition to the Rio Negro and upper course of the Rio Branco, and by the Natterer brothers in the Amazon from 1817–1835. After 1870 Steindachner assisted Agassiz for two years in the curation of fishes of the Thayer expedition at Cambridge. He returned to Vienna in 1872 with numerous duplicates from the Thayer expedition, then part of his private collection that he donated to NMW in 1874. Consequently, the years 1874 or 1875 on many NMW-labels from the Kähsbauer Donations refer to the acquisition year in NMW and not to the actual year of collection; the information "donation Steindachner" on ZSM lots refers exclusively to NMW material exchanged post-war, which Steindachner originally donated to NMW.

While the 1952 translocation was filed by Schindler in a list of exchanged NMW material, the 1953 material was not listed in this way. Usually, Schindler included original/transcribed NMW labels in the ZSM lots, but approximately 70 lots are without original NMW numbers. During a visit to NMW in 2001 (D. Neumann), it was possible to identify corresponding original NMW lots and to restore missing or inappropriate information at ZSM, which allowed unambiguous identification of additional syntypes hidden in the ZSM collection. However, it cannot be excluded that further (syn)types are hidden in the ZSM collection, because it was not possible to restore the data of all ZSM lots. This holds especially true for material collected and described

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by Steindachner, since he often based his descriptions on all available specimens without explicitly fixing single specimens as holotypes, thus making all of them simultaneous syntypes (Art. 73.2 ICZN). ZSM specimens originally collected, described, or are by indication of the location and the year likely to be collected by Steindachner during the Thayer, Hassler or his late Brazil expedition, are identified as potential syntypes as long as they cannot be definitely excluded as non-types. To avoid further confusion regarding the whereabouts of this material, it was agreed that the "Kähsbauer Donations" are to be retained in ZSM as a permanent exchange (Mikschi, written comm. 2001).

Vice versa, it is evident that there was considerable exchange of specimens between the ZSM and NMW collections in the 19th and early 20th century, i. e. material of the Wagner Collection and fishes that Princess Therese von Bayern collected from Central and South America. Kner (1863) and Steindachner (1894, 1895, 1900 and 1902) described 34 new species from both collections. For this purpose, the collections had been transferred to Vienna, the Wagner material by Siebold (Kner & Steindachner 1864), and the latter by Princess Therese von Bayern (1902) herself. From this material duplicates have been exchanged to NMW (and are still available in the Vienna collection). The bulk of both collections, however, was returned by Steindachner and had been available in the early ZSM collection, since Balss (1926) explicitly refers to this material. Only two syntypes of two species described by Steindachner, i. e. *Arges theresiae* and *Pimelodella yuncensis*, survived World War II in Munich; they were not transferred later by Schindler in the 1950s from Vienna (as part of the "Kähsbauer Donations"). Schindler labeled both lots with "Alte Sammlung" [Old Collection], indicating that he restored both types and specimen information from the post-war remains of the ZSM collection. It is likely that additional NMW specimens were exchanged by Steindachner before World War II, since he had visited the ZSM collection several times and referred to material that he knew from the Munich collection (Steindachner 1879c: 165 [17 in separatum]). ZSM received these specimens probably from Steindachner in exchange for duplicates he had received from ZSM; however, this pre-war NMW material appears to be lost in ZSM.

Exchanges from the Naturhistoriska Riksmuseet (NRM) in Stockholm under Rendahl

In 1950 Schindler followed on invitation of Hialmar Rendahl (then director of NRM), to determine South American fishes and (part?) of the Melin collection in NRM. Prior to his first visit in July 1950, Schindler was in close contact with Rendahl regarding possible exchanges of South German freshwater fishes for duplicates from the NRM collection, which would support his efforts in rebuilding the fish collection in Munich. According to available correspondence, Rendahl seemed very interested in obtaining samples of Central European freshwater fishes (e. g. especially material of *Carassius carassius* from the type locality in Pomerania, which was then in the former Soviet occupation zone). Schindler managed to assemble 18 specimens (NRM 46026) that he apparently hand carried to Stockholm in July 1950. Further exchanges that were explicitly requested by Rendahl are *Misgurnus fossilis* (NRM 10340–43) and *Barbatula barbatula* (NRM 10344); additional material included *Barbus barbus* (NRM 13482 and NRM 43514) and rheophilic percids from the Danube River, *Zingel streber* (NRM 45105), *Zingel zingel* (NRM 33495) and *Gymnocephalus schraetser* (NRM 12309–10). After Schindler returned from his first visit to Stockholm, part of the Melin collection was sent to Munich by Bergström in autumn or early winter 1950 (Schindler confirmed the arrival in writt. comm. to Rendahl 1 Dec. 1950). In a report to the Bavarian Ministry for Education Schindler states that "Von diesen Doubletten erhält die Zoologische Staatssammlung in München je ein bis mehrere Stück. … Diese Doubletten, sowie eine große Anzahl anderer wertvollen Fischarten, die Herr Prof. Rendahl der Zoologischen Staatssammlung schenkte, befinden sich bereits in München [From each of these duplicates the Zoologische Staatsammlung in Munich receives one to several pieces. … These duplicates are together with a large number of other valuable fish species, which Mister Prof. Rendahl donated to the Zoologischen Staatssammlung, already located in Munich]" (Schindler, writt. comm. 6 Oct. 1950). Schindler followed a second invitation to Stockholm in May 1951, where he continued his work on the Melin Collection in Stockholm, but did not finish. Schindler died of a heart stroke on a collecting trip in Poitiers (France) on 4 Sep. 1959. The only published work of Schindler on the Melin Collection is the description of *Rineloricaria melini* (Schindler, 1959[b]), which appeared post mortem.

The Collection Otto Schindler (1906–1959)

In 1931 Otto Schindler became assistant in the ichthyological collections of ZSM (Gruber 1992) where he worked on the fishes returned from the III German Grand Chaco Expedition to East Paraguay. He joined Hans Krieg for his IV expedition where he collected mainly characids in the Paraná River (Pto. Tibirica) and at different locations in the Rio

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Ivinheima, a tributary to the upper Paraná River. The material he collected during this field trip includes the complete type series of *Scoloplax empousa* collected while he waited in the field camp for several weeks for the return of Krieg and Schumacher. Another new species described from this collection is the gymnotiform knifefish *Sternarchus paranaensis* Schindler, 1940, a species previously overlooked by modern ichthyologists.

A second field trip led him together with Walter Forster to Bolivia (1953–1954). During the first part of this journey, he was appointed by the Bolivian Ministry of Agriculture to negotiate with Hans-Wilhelm Koepcke (a German then working in Peru) the fishing quotas for Lake Titicaca between Bolivia and Peru. From his work at Lake Titicaca he returned with a larger collection of various *Orestias*, *Trichomycterus rivulatus* and trouts. With the help of Rudolf Zischka, an entomological hobbyist in Cochabamba, they organised various sampling trips in the vicinity of Cochabamba, in the Amazon lowlands (Espiritu, Dep. Beni and Rio Chipiriri, Dep. Cochabamba) where they stayed at different estancias or facilities of Zischka (pers. corr. O. Schindler in ZSM). The fish collections returned from this journey mainly included characids, among them the type series of *Aphyocharacidium bolivianum*, *Oligosarcus schindleri* and *Characidium schindleri*.

Soon after Schindler's death in October 1959, J. Géry transferred all characids collected by Schindler and Forster to his home in Brien (Géry, writt. comm. 18 Sep. 1961). A handwritten but fragmentary list of specimens confirms this transfer, including many mixed lots of characids, but neither provides the actual number of specimens nor a number of probable uninventoried lots. Géry received additional mixed characid lots from Terofal, e. g. the collections of Juan Foerster from Argentina, of Harald Schultz from the Upper Xingu in Brazil and "more than 400 fishes from Manacapuru" which Terofal had sent directly from Brazil to Géry (Géry, writt. comm. 18 Mar. 1964). While part of the latter material was returned already in March 1966 and November 1968, the bulk of material had apparently never been returned except for single (type) specimens of new species in the early 1980s, which Géry subsequently published based on the various collections he had received from ZSM.

By that time, the once very close and friendly relations between Terofal and Géry obviously had deteriorated, resulting in a quite informal correspondence. Judging from the few available letters, the last specimens were apparently returned by Géry by the end of March 1983. The majority of specimens sent to Géry were loaned to him, and only a few specimens were intended for permanent exchange to his private collection. Part of the ZSM characids retained by Géry were apparently transferred to MHNG prior to or after his death in 2007; further specimens were apparently transferred to MTD, and still others were deposited by Géry (partially without authorisation from ZSM) in other institutions (e. g. ANSP, Sabaj Pérez, pers. comm. 2011). As there is no comprehensive list of all the specimens transferred to Géry and subsequently returned to ZSM, the restored (additional) information on re-discovered (type) specimens in other collections remains fragmentary. A major concern is that Terofal assigned several of these returned lots to the same original mixed lot, resulting in multiple entries of different species stored in separate lots under the same ZSM number, including type material. Specimens are traced as far as possible: all information regarding their complex history is summarized under "Remarks" in the respective species accounts. ZSM numbers have been corrected where necessary to allow unambiguous identification of type lots.

The Zoologische Präparatesammlung of the Ludwig-Maximilians-Universität München

As briefly detailed in Part I of the type catalogue (Neumann 2006), additional historic material from the early University collection was recently rediscovered in the "Zoologische Präparatesammlung" of the Zoological Institute of the Ludwig-Maximilians-Universität (LMU), Munich. The ZSM collections are based on the Natural History Cabinet of the Royal Bavarian Academy of Sciences, founded 1 May 1807 and then housed in the Wilhelminum in Munich. Administration of the Academy collections was divided in 1811, and Johann Baptist von Spix became director of the zoological and anthropological collections. This separation marks the foundation of the scientific ZSM collections.

The Natural History Cabinet of the Academy received additional collections between 1808 and 1810 (e. g. 12 000 specimens from the University of Regensburg and the University of Erlangen) and later from the Royal Bavarian University upon its translocation from Landshut to Munich 1825–1848 under King Ludwig I. According to Balss (1926), the university had refused mixing of these two anatomical collections in Munich (for details see Neumann 2006), fearing partial or complete incorporation of university collections into the newly founded ZSM. Therefore, university material was labeled and inventoried separately, even though both collections were stored and maintained in the same facility. This is important to note since these old university numbers are still traceable, either engraved or

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handwritten in white ink onto the black cardboard covers of the sealed lots. However, the old inventory of the university collection is evidently lost; it was not recovered when the Zoological Institute of LMU and its collections were moved in 2004 to a new building. As this material originally belonged to a separate collection (Balss 1926), the abbreviation ZPLMU is formally introduced here to identify and preserve the history of this collection; it is the abbreviation for "Zoologische Präparatesammlung der Ludwig-Maximilians-Universität München" [Zoological objects collection of the Ludwig Maximilians University Munich]. Separation between ZSM and ZPLMU collections is evident in the discordant numbering of material from the Doflein Collection of specimens collected together at the same location in Sagami Bay in autumn 1904.

During the reorganisation of the university collections in the 1970s part of the historic ZPLMU numbers were lost after they had been labeled with new adhesive stickers placed over the cardboard covers bearing the original handwritten numbers. During the same time, valuable historic material from the ZPLMU collection was imprudently discarded because the material was considered superfluous for modern student courses and thus was no longer "needed" for demonstration (D. Schaller, pers. comm. 2009).

Re-discovered material among the remaining fish specimens in the ZPLMU ichthyological collection includes valuable historic specimens of Siebold and Hofer from Bavarian locations, the deep sea surveys of the Valdivia expedition and also single types of the Spix, Haberer and Doflein collections. The bulk of the ZPLMU fish specimens was transferred and incorporated into the ZSM ichthyological collections in 2004 when the Institute of Zoology moved from Elisenstrasse in the Centre of Munich to its new facilities in Martinsried. Only few historic anatomical specimens, which are still needed for practical courses and lectures, are retained in the ZPLMU collection in the Institute of Zoology.

The Collection Heinz Büscher

The Büscher material contains lamprologine cichlids from Lake Tanganyika, i. e. type material of *Lamprologus meleagris*, *L. speciosus*, *Neolamprologus marunguensis*, *N. nigriventris*, *N. pectoralis* and *N. similis* and the ectodine cichlid *Xenotilapia papilio*. The material was part of the ZSM collection and was published with ZSM numbers in their respective original descriptions. However, the type material was transferred to Tervuren in 1994 and inventoried a second time with MRAC numbers published in Büscher (1995). This translocation had been initiated without consent of the ZSM administration by the departing ZSM curator Maurice Kottelat. Since then, the material has been referenced with varying museum and registration numbers, e. g. in the Eschmeyer Catalogue (updated online version 25 Oct. 2010). To terminate the ambiguous status of twice-inventoried types, it was agreed between ZSM and MRAC that all primary types originally described by Büscher as ZSM material (with ZSM numbers) are relocated to ZSM, including the (unique) holotype of *Xenotilapia papilio* (written comm. of J. Snoeks to U. Schliewen, Dec. 2004). The paratype series have been permanently divided between MRAC and ZSM except for the paratype of *Neolamprologus marunguensis*, which is permanently transferred to MRAC. For details regarding the Büscher paratypes refer to the Remarks for the respective species.

The LIPI Collection of Indonesian fishes by Maurice Kottelat

The museum abbreviation "ZSM/LIPI" was introduced by M. Kottelat to identify type material that was temporarily stored in ZSM but which was intended for later exchange and final deposition in an Indonesian institution (see Kottelat 1990b: 51). The reason for the invention of this museum abbreviation remains unclear, as synchronically Kottelat introduced and used "ZSM/LIPI" for species he described from material deposited (uncatalogued) in LIPI (Lembaga Biologi Nasional in Bogor, Indonesia), i. e. *Parosphromenus anjunganensis* and *Rasbora kalbarensis*, instead of requesting and using NCIP numbers. "ZSM/LIPI" material is not traceable in ZSM since Kottelat left as curator in 1993. An adequate institution for final deposition of type material exists in Bogor, but the material originally described as "ZSM/LIPI" was never transferred to LIPI / Bogor (Renny Hadiaty, pers. comm. 2005). However, it may be available in ZRC. The museum abbreviation "ZSM/LIPI" is obsolete and should no longer be used in publications as it refers to material that is not physically available in ZSM or in LIPI.

The Collection Maurice Kottelat in ZSM (ZSM/CMK)

"ZSM/CMK" is an abbreviation for the (private) "Collection Maurice Kottelat" in ZSM. This collection is sometimes confused with the ZSM collection; however, material published as "ZSM/CMK" was never intended for final deposition in ZSM and was never part of the ZSM collection. The material should

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be available in the personal collection of Maurice Kottelat (CMK) in Cornol, Switzerland; requests should be addressed directly to M. Kottelat. The misleading museum abbreviation "ZSM/CMK" should no longer be used to avoid further irritations regarding actual deposition and availability of the material. It should be referred to only as "CMK" in future publications.

In his work on Indochinese nemacheilines (Kottelat 1990a), Kottelat (1990a: 49) explicitly distinguished between ZSM and CMK collections and published most of the holotypes under "ZSM". In addition, he used the museum abbreviation "ZSM" in neotype designations to replace type material of historic syntypes that were either lost or destroyed at ZSM in World War II. However, all types published by Kottelat as "ZSM" are missing from the ZSM collections since M. Kottelat left as curator in 1993 with few exceptions. The missing types were rediscovered by chance in 2004 after an update of the online version of the Eschmeyer Catalogue, revealing that they had been transferred to and are registered in the Raffles Institute, Singapore (ZRC). The material has been available in ZRC since 1995 (K. Lim, pers. comm. to Schliewen 2005). This unauthorised transfer was neither discussed with nor permitted by the former ZSM director in charge, i. e. E. J. Fittkau (pers. comm. 2010). In addition, there is evidence that related entries in the ZSM inventory have been secondarily modified (e. g. see remarks in *Caecogobius cryptophthalmus*). All attempts from ZSM to seek a mutually agreeable consensus for all involved parties failed (pers. comm. with M. Kottelat, e-mail communication with M. Kottelat, K. Lim and P. Ng). According to the perspective of ZSM, the missing type material belongs to ZSM and should therefore be returned. In this catalogue, these types appear with their ZSM numbers as originally described by Kottelat. For details refer to the "Remarks" at the respective species.

Type catalogue (part II)

The families appear in alphabetical order; species are listed according to genera. Unless otherwise stated, the taxon name is valid as originally published. Spellings, authorships and dates, types and data of types have been critically compared with the Catalogue of Fishes (updated online version 29 March 2011). If the species has been synonymised or transferred to another genus, the **valid name** and a detailed reference is given under "Remarks". Citations from the original description are in "quotation marks", additional information from different sources in [brackets].

Institutional abbreviations are as in Eschmeyer (2010), except CJG (Collection Jaques Géry, formerly Brien, now Geneve), CTL (Collection Thomas Litz, Attenweiler), KEWI (private collection Kai Erik Witte, Tübingen) and ZSM [Old Collection] (historic pre-war ichthyological collection in ZSM). Additional abbreviations used throughout the text are: coll. (collection), don: (donatus [lat.] = donated), leg: (legit [lat.] = collected by), TL (total length) and SL (standard length).

Alestidae

***Micralestes schelly* Stiassny & Mamonekene, 2007**

Zootaxa 1614: 21–24, figs 1f, 2d, 3–6.

Paratypes: ZSM 33982 (2), 39.0–44.2 mm SL, Congo River main channel near Inga, point 50, Province Bas Congo, 5°31.69' S / 13°36.47' E (Democratic Republic of Congo); leg: R. Schelly, J. P. Sullivan, C. Shumway, D. E. Musibono, S. Ifuta, J. Punga, 26.IX.2002.

Remarks. ZSM 33982 (2) exchanged from AMNH 239518.

Adrianichthyidae

***Oryzias hadiatyae* Herder & Chapuis, 2010**

Raffles Bull. Zool. 58 (2): 269–280, figs 3–4, 5a.

Paratypes: ZSM 39760–39766, 2 males (28.4 and 31.6 mm SL), 5 females, (34.5–43.7 mm SL); Lake Masapi, southern shore between 2°50.837' S / 121° 21.116' E and the lake's outlet, approx. 600 m westwards of this position, Larona drainage, South Sulawesi Province, Sulawesi (Indonesia), leg: F. Herder, J. Pfaender, J. Schwarzer, R. K. Hadiaty, 15.IV.2004.

***Aplocheilus marmoratus* Aurich, 1935** (a)

Zool. Anz. 112 (5/6): 97–107, fig. 1b.

Syntypes: ZSM [Old Collection] (11), 21–46 mm (TL), "Towoeti-See [Lake], Zentral-Celebes [Sulawesi]" (Indonesia); leg: Woltereck, no date. **ZSM [Old Collection]** (11), 26–29 mm (TL), "Mahalona-See [Lake], Zentral-Celebes [Sulawesi]" (Indonesia); leg: Woltereck, no date.

Neotype: ZSM 27172 "Sulawesi: Lake Towuti, small rivulets flowing into the lake on a sandy beach at Lingkoburanga, about 6 km S of Timampui" (Indonesia); leg: M. Kottelat, 22.VI.1988.

Remarks. Original syntypes apparently destroyed in World War II. Data of the syntype series restored

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from Aurich (1935a). Neotype designated by Kottelat (1990c). The neotype is not traceable in the ichthyological collection since M. Kottelat left ZSM as curator in 1993; it was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38449 [ex ZSM 27172]. The original pencil entry "NEOTYPE" in the ZSM inventory is later replaced with the indian ink entry "NEOTYPE (long term loan to ZSM)". There is no indication in the neotype designation that this neotype belonged to the (private) collection Maurice Kottelat in ZSM ("ZSM/CMK"), as e. g. for comparative material in the same work. The neotype was intended to replace the historic Aurich syntypes, and should be returned. According to Kottelat (1990c) valid as ***Oryzias marmoratus*** (Aurich, 1935).

***Aplocheilus matanensis* Aurich, 1935**

Zool. Anz. 112 (5/6): 103–104, fig. 1a.

Syntypes: ZSM [Old Collection] (10), "Matano-See [Lake], Totallänge [TL] 31–53 mm, Zentral-Celebes [Sulawesi]" (Indonesia); leg: Woltereck, no date.

Neotype: ZSM 27368, 45.1 mm SL"Sulawesi: Lake Matano, East of Soroako" (Indonesia); leg: M. Kottelat, 19. VI.1988.

Remarks. Original syntypes apparently destroyed in World War II. Collection data of the syntype series restored from Aurich (1935). Neotype designated by Kottelat (1990c). The neotype is not traceable in the ichthyological collection since Kottelat left ZSM as curator in 1993; it was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38450 [ex ZSM 27368] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen is published as part of the ZSM collection and there is no indication in the neotype designation that the neotype belonged to the (private) collection Maurice Kottelat in ZSM ("ZSM/CMK"), as e. g. for comparative material in the same work. Kottelat registered the neotype in the ZSM inventory as ZSM 27368 (1) ex CMK 6591 confirming that the neotype was exchanged from CMK to ZSM; it was not a "long term loan" from CMK. The neotype was intended to replace the historic Aurich syntypes and should be returned. According to Kottelat (1990c) valid as ***Oryzias matanensis*** (Aurich, 1935).

***Oryzias nigrimas* Kottelat, 1990** (b)

Ichthyol. Explor. Freshwaters 1 (1): 52, fig. 2.

Holotype: "ZSM/LIPI" 1.

Paratypes: "ZSM/CMK" 6358 (97), "ZSM/CMK" 6361 (3), "ZSM/LIPI" 2 (121).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Oryzias orthognathus* Kottelat, 1990** (b)

Ichthyol. Explor. Freshwaters 1 (1): 55, fig. 3.

Holotype: "ZSM/LIPI" 3.

Paratypes: "ZSM/CMK" 6357 (6), 6362 (1), "ZSM/LIPI" 4 (8).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Oryzias profundicola* Kottelat, 1990** (b)

Ichthyol. Explor. Freshwaters 1 (2): 161, figs 8–9.

Holotype: "ZSM/LIPI" 12.

Paratypes: "ZSM/CMK" 6359 (1), 6363 (2), 6382 (1), 6383 (1), 6485 (5); "ZSM/LIPI" 13 (2), 14 (1), 15 (1).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

Apteronotidae

***Sternarchus paranaensis* Schindler, 1940**

Tier und Umwelt in Südamerika. In: Ibero-amerikanische Studien 13: 104–107, fig. 6.

Holotype: ZSM 5902, "small" tributary at "right bank" of Rio Parana, 34 km upstream of Pto. Tibiriga, Prov. Sao Paulo (Brazil); leg: Otto Schindler, 6.II.1938.

Paratype: ZSM 5901 (1), same data as holotype.

Remarks. Collected in the course of the 4th Brazil expedition of Hans Krieg. According to de Santana (pers. comm. 9 Sep. 2004) a senior synonym of *Apteronotus ellisi* (Aramburu, 1957); according to the Eschmeyer Catalogue (updated online version 14 July 2011), holotype ZSM 20/1938 and paratype ZSM 21/1938 (1) destroyed in WW II and treated as an unused senior synonym of *Tembeassu marauna* Triques, 1998. Both, the holotpye and paratype of *Sternarchus paranaensis* are available and were not destroyed. If

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Fig. 1. ZSM 5902 (1) holotype, below ZSM 5901 (1), paratype of *Apteronotus paranaensis*.

Tembeassu marauna or *Apteronotus ellisi* turn out to be conspecific with *Sternarchus paranaensis*, then they are junior synonyms and *Sternarchus paranaensis* would have priority (article 23.1 ICZN). However, in his thesis de Santana (2007) treats this species valid as *Apteronotus paranaensis* (Schindler, 1949), probably based on photographs and Schindler's original description he received in June 2004. Tentatively valid as ***Apteronotus paranaensis*** (Schindler, 1949).

Astroblepidae

***Arges theresiae* Steindachner, 1907** (d)

Anz. Akad. Wiss. Wien 44 (12): 228–229.

Potential syntype: 7856 (1), "Cayendeled" [High Andes Mountains at Cayendeled (Ecuador)]; don: Steindachner, no date.

Remarks. Franz Steindachner named this species in honour of Princess Therese von Bayern. This specimen was likely part of her private collection, which she received from Steindachner (as indicated by "don: Steindachner"). The ichthyological collections of ZSM received this lot most likely together with other material after her death in 1925 (Balss 1926). It is interesting to note that Schindler identified this lot as "Alte Sammlung" [Old Collection], confirming that the syntype was part of the historic collection Schindler had already known from pre-war times from ZSM. It is not part of the "Kähsbauer Donations"; it was neither inventoried by Schindler with the bulk of the "Kähsbauer Donations" that ZSM received from NMW in 1952 and 1953, nor is it included on his list of exchanged NMW specimens from 1952. Furthermore, there is no data available from the NMW inventory or in the acquisition files that would support an exchange from NMW (Wellendorf, pers. comm. 2001). The only conclusive explanation is that Steindachner exchanged this specimen from his private collection before he registered the remaining specimens in the NMW files. Steindachner based *Arges theresiae* on all available specimens; thus there is a high probability that the ZSM specimen is part of the original syntype series, even if it was not exchanged from the inventoried NMW syntype series of *Arges theresiae* (NMW 48091–92 (10, 7)). According to Schaefer (in Reis et al. 2003) valid as ***Astroblepus theresiae*** (Steindachner, 1907).

Atherinopsidae

***Thyrina meeki* Miller, 1907**

Bull. Am. Mus. Nat. His. 23 (2): 110–111, fig. 2.

Potential paratype: ZSM 10156 (1), "Rio Motagua [Montagua], Guatlan" (Gutemala); Coll. Miller.

Remarks. Rediscovered during revisionary work in the collection in September 2010 (D. Neumann). Specimen was exchanged from NMW under O. Schindler, but not with the bulk of the specimens donated to ZSM by Kähsbauer. Neither marked as containing a paratype on the original ZSM label nor on an included NMW label with transcribed NMW data (which gives no original NMW number) or in the ZSM inventory. It was likely exchange in the course of Schindler's ongoing work on the fishes of the Collection Peters, where he cooperated with Kähsbauer for a comprehensive revision of the fishes of Honduras and El Salvador. "Donation Steindachner 14.I.1905" on the original ZSM label refers

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to the donation of the Collection Miller to NMW by Steindachner. The data of NMW 87599 agrees in all details with the transcribed NMW data written in Schindler's hand on the NMW label included in ZSM 10156, but according to the NMW files from 1988 this lot includes only one specimen, which is available in NMW (Wellendorf, pers. comm. 17 Jan. 2011). The original number of specimens in NMW 87599 (1 or 2) can not be validated, as the acquisition files from this time period are lost in NMW. NMW 87599 is the only lot from the paratype series in NMW, which was collected on 14.I.1905. Even though the origin of ZSM 10156 can not be confirmed in NMW, the paratype status is highly probable (Wellendorf, pers. comm. 17 Jan. 2011); treated as potential paratype. According to Dyer (in Reis et al. 2003) valid as ***Atherinella meeki***.

Auchenipteridae

Auchenipterus striatulus Steindachner, 1877

Sitzungsber. Akad. Wiss. Wien 74 (1. Abth.): 98–101 [in separatum].

Syntype: ZSM 6064 (1), "Campos" [Rio Parahyba bei Campos (Brazil)]; [leg: Hartl and Copeland, 1865], don: Steindachner, 1874.

Remarks. Part of the Kähsbauer Donations out of NMW, according to NMW files ex NMW 47445 (now 5); Ahnelt (written comm. 1983) and Wellendorf (pers. comm. 2001) confirmed the syntype status of ZSM 6064; exact location, collectors and date quoted from Higuchi (1992 [1996, updated online version]); "1874" on the lot label refers to the accession year in NMW and is not the actual collecting year (Wellendorf, pers. comm. 2001); according to Ferraris (in Reis et al. 2003) valid as ***Trachelyopterus striatulus*** (Steindachner, 1877).

Balitoridae

Cobitis zonalternans Blyth, 1860

J. Asiatic Soc. Bengal 29 (2): 172.

Neotype: ZSM 27468 (1), Salween basin, Huai Mae Charno, 4 km S of Amphoe Mae Ramat on road 1085, Tak Province, 16°58' N / 98°34' E (Thailand); leg: M. Kottelat, 6.III.1985.

Remarks. ZSM 27468 (1) ex CMK 4915. Holotype at ZSI lost, neotype designation by Kottelat 1990a. Neotype was temporarily stored in the ZRC collection (ZRC 38458) and officially returned to ZSM by Kelvin Lim 12.V.2005. According to Kottelat (1990a: 35) valid as ***Acanthocobitis zonalternans*** (Blyth, 1860).

Cobitis cincticauda Blyth, 1860

J. Asiatic Soc. Bengal 29 (2): 172.

Neotype: ZSM 27474 (1), 29.3 mm SL, Huey Jawang, Salween basin, Amphoe Tha Song Yand Dist., Tak Province (Thailand); leg: S. Ukkatawewat, 20.III.1982.

Remarks. ZSM 27474 (1) ex NIFI 2060. Holotype at ZSI lost, neotype designation by Kottelat 1990a. Neotype was temporarily stored in the ZRC collection (ZRC 38458) and officially returned to ZSM by Kelvin Lim 12.V. 2005. According to Kottelat (1990a: 115) valid as ***Schistura cincticauda*** (Blyth, 1860).

Nemacheilus ornatus Kottelat, 1990 (a)

Indochinese nemacheilines: 61–63, figs 34–35.

Holotype: ZSM 27469, 38.9 mm SL, Lake Sonkphan, Khlong Sok at Ban Khlong Sok, Tapi R. basin, Surat Thani Province, 8°49' N / 98°35' E (Thailand); leg: L. Sonkphan, M. Kottelat, T. Roberts, 4.IV.1985.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38466 [ex ZSM 27469] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27469 (1) ex CMK 5181 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. The remaining 7 specimens in CMK 5181 are published as paratypes. The holotype is published as ZSM and not as part of "ZSM/CMK".

Nemacheilus pallidus Kottelat, 1990 (a)

Indochinese nemacheilines: 63–66, figs 36–37.

Holotype: ZSM 27470, 54.0 mm SL, Huai Mae Phlung from Ban Pong, to 17 km upstream, Mae Nam Yom basin, Lampang Province, 18°42' N / 99°58' E (Thailand); leg: P. Hobelman, 30.X.1984.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38468 [ex ZSM 27470] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27470 (1) ex CMK 4835 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional

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7 specimens from the same lot were published as paratypes in CMK 4835, further paratypes from his private collection under CMK 5678 (14), 4366 (1), 5028 (3), 5022 (1), 5859 (1) and 5853 (4) in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Physoschistura pseudobrunneana* Kottelat, 1990** (a)

Indochinese nemacheilines: 81–84, figs 49–50.

Holotype: ZSM 27471, 28.1 mm SL, Nam Mae Lao at km 62 and 65 along road from Chiang Mai to Chiang Rai, Mekong basin, Chiang Rai Province (Thailand); leg: P. Hobelman, 28.III.1983.

Remarks. Genus misspelled *Physochistura* in main heading on p. 81. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38473 [ex ZSM 27471] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27471 (1) ex CMK 4037 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional 3 paratypes from the same lot were published as paratypes in CMK 4037, further 16 paratypes from the private collection CMK in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Schistura alticrista* Kottelat, 1990** (a)

Indochinese nemacheilines: 98–102, figs 68–69.

Holotype: ZSM 27472, 70.9 mm SL, Mae La Ka, Huei Nong Heng, Tambon Muang Bon, Amphoe Khum Yuan, Mae Hong Son Province, Salween basin (Thailand); 25.XI.1978.

Remarks. Collector unknown, not given in original description and not available from ZSM inventory. Exchanged from National Inland Fisheries Institute (NIFI), Fish Taxonomy Division, Bangkok, ZSM 27472 ex NIFI 2059. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann) but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38469 [ex ZSM 27472] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen was institutionally exchanged from NIFI to ZSM and belongs to ZSM; it should be returned.

***Schistura bella* Kottelat, 1990** (a)

Indochinese nemacheilines: 104–108, figs 72–73.

Holotype: ZSM 27473, 39.1 mm SL, Mae Nam Fang, 35 km south of Fang on road to Chiang Mai, Mekong basin, Chiang Mai Province (Thailand); leg: M. Kottelat, 11.IV.1985.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as holotype: ZRC 38465 [ex ZSM 27473] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27473 (1) ex CMK 4037 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Schistura dubia* Kottelat, 1990** (a)

Indochinese nemacheilines: 123–127, figs 89–90.

Holotype: ZSM 27475, 58.0 mm SL, Nam Mae Kham Mi, near Ban Mae Krating, road from Nan to Phrae, km 66, Phrae Province, 18°22'N / 100°25'E (Thailand); leg: M. Kottelat, 8.III.1985.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38474 [ex ZSM 27475] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27475 (1) ex CMK 4944 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional 10 specimens from the same lot were published as paratypes in CMK 4944, and further 40 paratypes from the private collection CMK in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Schistura geisleri* Kottelat, 1990** (a)

Indochinese nemacheilines: 127–131, figs 91–92.

Holotype: ZSM 27476, 25.4 mm SL, Nam Mae Taeng at Ban Mae Ta Man, Mae Nam Ping basin Chiang Mai Province, 98°53'E / 19°12'N (Thailand); leg: P. Hobelman, V.1984.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999,

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2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38475 [ex ZSM 27476] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27476 (1) ex CMK 4276 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional 4 specimens from the same lot were published as paratypes in CMK 4276, and further 46 paratypes from the private collection CMK in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

Schistura jarutanini **Kottelat, 1990** (e)

Méms. Biospéléol. 17: 49, pl. 1 (fig. 1); figs 1–2.

Holotype: ZSM 27171, "58.9 mm SL", Underground stream, Tham Ba Dan, Amphoe Sri Sawat, Kanchanaburi Province, approx. 14°02'N / 94°32'E (Thailand); leg: K. Jarutanin, XI.1987.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38479 [ex ZSM 27171] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27171 (1) ex CMK 5991 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional specimens from lot "ZSM/CMK" 5991 were published as paratypes in the private collection CMK in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

Schistura kontumensis **Freyhof & Serov, 2001**

Ichthyol. Explor. Freshwaters 12 (2): 160–163, figs 29–30.

Paratypes: ZSM 28869 (12), stream Iasia about 25 km west of Kontum, Kontum Province, 14° 23.63'N / 107° 48.64'E (Vietnam); leg: J. Freyhof, D. Serov, 23.II.1999.

Schistura maepaiensis **Kottelat, 1990** (a)

Indochinese nemacheilines: 143–146, figs 105–106.

Holotype: ZSM 27479, 41.9 mm SL, Nam Mae Cha at Ban Pha Bong, 12 km south of Mae Hong son, Salween basin, Mae Hong Son Province, 19°12'N / 97° 59'E (Thailand); leg: M. Kottelat, 12.IV.1980.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38476 [ex ZSM 27479] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27479 (1) ex CMK 4243 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Additional 3 specimens from the same lot were published as paratypes in CMK 4243, further 11 paratypes from the private collection CMK in the same work. The holotype is published as ZSM and not as part of "ZSM/CMK".

Schistura mahnerti **Kottelat, 1990** (a)

Indochinese nemacheilines: 151–154, figs 110–112.

Holotype: ZSM 27478, 50.7 mm SL, 20 km north of Mae Sariang, Salween basin, Mae Hong Son Province (Thailand); XI.1978.

Remarks. Collector unknown, not given in original description and unavailable from ZSM inventory. Specimen exchanged from National Inland Fisheries Institute (NIFI), Fish Taxonomy Division, Bangkok, ZSM 27478 ex NIFI uncat. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38477 [ex ZSM 27478] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen was institutionally exchanged from NIFI to ZSM and belongs to ZSM; it should be returned. Additional 9 paratypes from the private collection CMK were published in the same work.

Schistura moeiensis **Kottelat, 1990** (a)

Indochinese nemacheilines: 164–167, figs 120–121.

Holotype: ZSM 27480, 46.3 mm SL, Amphoe Mae Sot, Tambon Kanei Jiu, Huei Kite, Salween basin, Tak Province (Thailand); 11.VI.1981.

Remarks. Collector likely S. Ukkatawewat; the holotype of *S. similis* was collected on the same day at the same location. Specimen exchanged from National Inland Fisheries Institute (NIFI), Fish Taxonomy Division, Bangkok, ZSM 27480 ex NIFI 2064. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38471 [ex ZSM 27480] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This

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specimen was institutionally exchanged from NIFI to ZSM and belongs to ZSM; it should be returned. Additional 10 paratypes from his private collection CMK were published in the same work.

***Schistura paucicincta* Kottelat, 1990** (a)

Indochinese nemacheilines: 177–179, figs 133–134.

Holotype: ZSM 27481, 22.3 mm SL, Huai Mae Charno, 4 km south of Amphoe Mae Ramat on road 1085, Salween basin, Tak Province, 16°58' N / 98°34' E (Thailand); leg: M. Kottelat, 6.III.1985.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38464 [ex ZSM 27481] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27481 (1) ex CMK 4917 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Schistura psittacula* Freyhof & Serov, 2001**

Ichthyol. Explor. Freshwaters 12 (2): 170–172, figs 37–38.

Paratypes: ZSM 28867 (10), middle River Cam Lo about 20 km west of Dong Ha, Quang Tri Province, 16° 47.00' N / 106°53.86' E (Vietnam); leg: J. Freyhof, D. Serov, 14.III.1999.

***Schistura robertsi* Kottelat, 1990** (a)

Indochinese nemacheilines: 198–201, figs 148–149.

Holotype: ZSM 27482, 27.0 mm SL, Tributary of Khlong Khao Thalu at Ban Bang Kan, road from Phangnga to Kapong, Phangnga Province, 8°33' N / 98°28' E (Thailand); leg: M. Kottelat, 22.IV.1985.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38472 [ex ZSM 27482] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27482 (1) ex CMK 5346 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. An additional specimen from the same lot was published as paratype in CMK 5346 together with one additional CMK paratype. The holotype is published as ZSM and not as part of "ZSM/CMK".

***Schistura similis* Kottelat, 1990** (a)

Indochinese nemacheilines: 210–213, figs 156–157.

Holotype: ZSM 27483, 59.0 mm SL, Huei Ki Teu, Tambon Kanei Jiu, Amphoe Tha Song Yang, Salween basin, Tak Province (Thailand); leg: S. Ukkatawewat, 11.VI.1981.

Remarks. Exchanged from National Inland Fisheries Institute (NIFI), Fish Taxonomy Division, Bangkok, ZSM 27483 ex NIFI 1454. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38478 [ex ZSM 27483] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen was institutionally exchanged from NIFI to ZSM and belongs to ZSM; it should be returned. Additional 14 paratypes from the private collection CMK were published in the same work.

***Schistura sokolovi* Freyhof & Serov, 2001**

Ichthyol. Explor. Freshwaters 12 (2): 172–176, figs 40–41.

Paratypes: ZSM 28868 (6), stream at Kon Ha Nung about 50 km north of An Khe "a confluent to River Ba", Gia Lai Province , 14°20.45' N / 108°34.81' E (Vietnam); leg: J. Freyhof, D. Serov, 23.II.1999.

Callichthyidae

***Corydoras ehrhardti* Steindacher, 1910**

Anz. Akad. Wiss. Wien 47 (8): 60.

Paralectotype: ZSM 4813 (1), Joinville, Jaragua [Santa Catarina, affluents from Jaraguá mountains near Joinville, 26°21' S / 48°49' W] (Brazil); leg: W. Erhardt, 1909.

Potential paralectotype: ZSM 17983 (1), same data.

Remarks. Specimen ZSM 4813 (1) was exchanged from NMW 46716 and is part of the original syntype series in NMW. ZSM 17983 (1) most likely originates from NMW 46711 (7 now 6) from which one specimen in NMW is apparently missing. However, it was not possible to validate the exchange of the ZSM specimen from this lot in the NMW inventory (Wellendorf, pers. comm. 2001). Additional information on the location is quoted from Higuchi (1992 [1996, updated online version]). Lectotype designation in Njissen & Isbrücker (1980).

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Corydoras julii **Steindacher, 1906**

Anz. Akad. Wiss. Wien 43 (27): 480–481.

Potential paralectotypes: ZSM 17995-17998 (4), Rio Parahim [Parnagua, Victoria]; leg: F. Steindachner, 29.V.1903.

Remarks. ZSM 17995–17998 originates with high probability from NMW 46734–46743 and is part of the syntype series, but it was not possible to verify this from the NMW inventory (Wellendorf, pers. comm. 2001). The collection data of ZSM 17995–17998 is identical with the type location. Steindachner based his description on all available specimens from his "Brasilien Expedition" 1903; thus all specimens are simultaneous syntypes (article 73.2 ICZN). The lot ZSM 17995–17998 has been inventoried by F. Terofal two years after Schindlers death in 1957. It is possible that Terofal overlooked additional information concerning the type status when inventorying these specimens. The lot was not inventoried with additional NMW material and Terofal did not identify them as part of the Kähsbauer Donations, which would have helped to identify them as syntypes. Schindler filed no information concerning the type status of the specimens he received from Kähsbauer in the inventory, however the ZSM lot was recovered accurately marked red as containing type material in the collection. Lectotype designation in Njissen & Isbrücker (1980). Additional information on the location quoted from Higuchi (1992 [1996, updated online version]).

Corydoras treitlii **Steindacher, 1906**

Anz. Akad. Wiss. Wien 43 (27) 1906: 478–479.

Paralectotypes: ZSM 17993-94 and **7611 (3)**, Victoria, Parnahyba [Creek into Rio Parnaíba near Alto Parnaiba = Victoria, Maranhâo, 9°08'S / 45°56'W] (Brazil); leg: Steindachner et al., 1903.

Remarks. Part of the Kähsbauer Donations; specimens ZSM 17993–94 and ZSM 7611 were apparently lumped together in one lot by Terofal; while ZSM 7611 is inventoried by Schindler's hand, the entries for 17993–94 are by Terofal. **ZSM 17993–94** and **7611 (3)** ex NMW 9355–67 (13 now 10); additional information on the location quoted from Higuchi (1992 [1996, updated online version]).

Caproidae

Antigonia fowleri **Franz, 1910**

Abh. Akad. Wiss. München, Math.-Phys. Kl. 4, Suppl. 1: 58–59.

Syntypes: ZSM [Old Collection] (10), "Sagamibucht" [Sagami Bay (Japan)]; coll. Haberer, no date. **ZSM [Old Collection] (8)**, "Dzushi" (Japan); coll. Doflein, no date. **ZSM [Old Collection] (4)**, "Misaki"; coll. Doflein, no date. **ZSM [Old Collection] (2)**, "Aburatsubo" (Japan); coll. Doflein, no date. **ZSM [Old Collection] (1)**, Station 16: [trawl off Hiratsuke, 2.8 miles N of mouth of Banyugawa, 35°16'15" N/139°22'50" E, depth: 600–400 m, time: 12:00–14:00 pm; leg: Zuso Maru, 15.XI.1904]. **ZSM 34131 (2)**, either from "Aburastubo", Dzushi or "Misaki"; coll. Haberer and Doflein, no date.

Remarks. Additional data on "Station 16" restored from Doflein (1904, 1905). The syntypes of *Antigonia fowler* originally housed in ZSM were apparently destroyed in World War II (see historical review for details); not found during a type search in July 2005 (D. Neumann). Five syntypes were exchanged before the Second World War to SMF, probably by Zugmayer; SMF 7395–99 ex ZSM [Old Collection]. Two of these syntypes were officially retransferred to ZSM in 2005; ZSM 34131 (2) ex SMF 7395–99 (5 now 3). According to Berry (1959: 205) a synonym of ***Antigonia rubescens*** (Günther, 1860).

Characidae

Aphyocharacidium bolivianum **Géry, 1973**

Stud. Neotrop. Fauna 8: 101–105, figs 12–14.

Paratype: ZSM 40738 (1), 20.5 mm SL "Arroyo Chichigambo [likely Arroyo Chichiguambo] near Espiritu on the upper Rio Yacuma, tributary or the Rio Marmoré 2°30'N of Rio Chaparé", Dep. Beni [tentatively at 14° 0'8.00" S / 66°16'0.00" W] (Bolivia); leg: K. P. Baumert, 15.VIII.1955. **ZSM (1) 40739 (1)**, 27.5 mm SL, "brook between upper Rio Chaparé and Rio Chimoré, tributary to Rio Mamoré, east of" Todos Santos approximately 16°47'S / 65°00'W (Bolivia); leg: K. H. Lüling, 9.X.1966.

Remarks. Both paratypes have been missing from ZSM and were re-discovered as part of the Géry Collection transferred to MHNG around 1984 (see Introduction for details) and were officially returned by S. Fisch-Muller 11 May 2011; ZSM 40738 (1) ex MHNG 2232.073 (1), formerly JGC 10.1972 and ZSM 40739 (1) ex MHNG 2173.030 (1), formerly JGC 0698.

Characidium heinianum **Zarske & Géry, 2001**

Zool. Abh. Mus. Tierkde. Dresden 51 (16): 231–234, figs 1–3.

Paratypes: ZSM 29465 (1), **ZSM 29466 (1)**, **ZSM 29467 (1)**, **ZSM 29468 (1)**, **ZSM 29469 (1)**, Rio Ipurupuru, tributary to Rio Mamoré, near crossing with

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road to San Ramon, about 73 km north of Trinidad, Dep. Beni, 14°12.538' S / 64°56.268' W (Bolivia); leg: A. Zarske, G. Hein, T. Tonoki and J. Zapata, 14.–15. VI.2000.

Remarks. GPS data of type location in original description (14°12'538" S / 64°56'268" W) erroneous and corrected as given above.

Characidium schindleri Zarske & Géry, 2001

Zool. Abh. Mus. Tierkde. Dresden 51 (16): 234–237, figs 4–5.

Holotype: ZSM 29470, "left tributary to [Rio] Palmar, km 144" (Bolivia); leg: Schindler and Forster, X.1953.

Paratypes: ZSM 29471 (1), "Yungas de Palmar, km 114, 620 m" (Bolivia); leg: Schindler and Forster, 13.X.1953. **ZSM 29472 (1)**, same location as ZSM 29471; leg: Schindler and Forster, 25.X.1953.

Remarks. MTD 25367–68 (2) and CJG 1043.1–2.2001 (2) ex ZSM (original ZSM lot remains unclear). Type location is described in more detail in Forster (1955: 92): "21.–24. Oktober 1953. 'km 114' (ca. 600 m). Der Ort liegt in einer kleinen Erweiterung des schluchtartigen Tales des Rio Palmar […] es wurde hauptsächlich längs der Straße und am Flusse zwischen Palmar und 'km 114' gesammelt" ['km 114' ([alt.] approx. 600 m). The village is situated in a small expansion of the glen of the Rio Palmar […] collecting was done mainly along the road and at the river between Palmar and 'km 114']." Thus, the type location can be precised as "left tributary to Rio Palmar [at village] "km 144" [likely one of the roadside villages along Routa 7 (old road Cochabamba – Santa Cruz) near Palmar village approximately at 17°0'47.00" S / 65°18'25.00" W].

Cheirodon kriegi Schindler, 1937

Anz. Akad. Wiss. Wien 74 (13): 106–107.

Lectotype: ZSM 5859, male, 19.7 mm SL, "Centurion (Nordostparaguay)" [northeast Paraguay]; leg: Krieg, Schumacher and Kiefer, X.1931.

Paralectotypes: ZSM 5860 (1), female, 19.7 mm SL, same data as lectotype. **ZSM 5862–5863 (2)**, same location as lectotype, leg: Hans Krieg, 3rd Exped., X.1931. **ZSM 5867–5892 (26 now 15)**, same data as ZSM 5862–5863.

Remarks. Schindler designated no name bearing type in the original description. In a second, later description (Schindler 1938) he based this species on a "Typus 40/1931" and "Paratypen 41/1931, 30 Exemplare von 19 bis 24 mm", also adding more detailes on the type locality ("Centurión am Rio Apa"). Naming of a "Typus" together with the unambiguous selection of 40/1931 (now ZSM 5859) as name-bearing type fixes this specimen as a lectotype (Art. 74.5 ICZN) with Schindler acting as first revisor. Lot ZSM 5859 is marked by Schindler as "Typus". Further information on the type locality is available in Schindler (1938) including a map of the exact position (Loc. 9): "Estancia San Luis de la Sierra, Apabergland [Apa Mountains], (Paraguay); mit Exkursionen in nördl. Richtung zu den Punkten Centurión und Estrella am Rio Apa. [with excursions in northern direction to locations Centurión and Estrella at Rio Apa]". The reasoning behind a later separation of lot 41/1931 (30) into three single lots remains unclear. ZSM 5867–5892 (15) originally contained 26 specimens; according to an additional label included in the lot, 1 specimen was exchanged to MSNM, MSNM 2 or 4962 (1); a second specimen was exchanged to Amsterdam, ZMA 114445 (1). Additional 5 paralectotypes have obviously been exchanged by O. Schindler to NMW; location and number of specimens on the (old) lot label NMW 27948–27952 (5) agrees with the available data of the lectotype, however this lot was re-inventoried later on as NMW 62548 containing only 3 "Co-Typen" [syntypes] (H. Wellendorf, pers. comm. 20 July 2005); two of the NMW paralectotypes are obviously missing. According to labels included in ZSM 5867–5892, 5 additional specimens were donated to Géry. Four of them were recently rediscovered in MHNG 2171.68 (4), originating from CJG M 81. The specimens were likely exchanged to Géry in 1959 by Terofal. The data of CJG M81 suggests that the ZMA specimen was not directly exchanged from ZSM, but from Géry in July 1975 (online information Type Catalogue MHNG, Dec. 2010). According to Casciotta et al. (in Reis et al. 2003) valid as ***Serrapinnus kriegi*** (Schindler, 1937).

Creagrutus boehlkei Géry, 1972

Acta Humboldt. (Ser. Geol. Palaeontol. Biol.) 2: 63, pl. 4 (fig. 2).

Holotype: ZSM 28428a, male, "Oriente del Ecuador" [eastern Ecuador], no exact location available (Ecuador); leg: J. Förster (field no. JF 2 56), II.1956.

Paratypes: ZSM 28428b (2), **ZSM 28428c** (2), same data as holotype.

Remarks. The available correspondence from Juan Förster in ZSM does not allow a more detailed restriction of the the type locality. The lots were inventoried as late as 1992 and the holotype erroneously labelled as ZSM 28428. This ZSM number is preoccupied with ZSM 28428, *Brycon atrocaudatus*. Both, holotype and paratypes were originally published as "ZSM" [uncat.], but Vari & Harold (2003) cited the holotype as

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ZSM 28428. To avoid confusion and for unambiguous identification of the types, the inventory numbers are changed as follows: ZSM 28428a (1), holotype of *Creagrutus boehlkei*; ZSM 28428b (2) and ZSM 28428c (2), paratypes of *Creagrutus boehlkei*. The original lot ZSM 28428, *Brycon atrocaudatus*, is retained as ZSM 28429a. Two paratpyes out of ZSM 28428c are missing and were likely retained by Géry; one of them was donated by Géry to MTD, MTD 27515 (1) likely ex ZSM 28428c; origin of MTD 27515 ex ZSM 28428c could not be validated in detail, but is highly probable; specimen in MTD origins from the private collection of Géry (Zarzke 2003 and pers. comm. 18 Jan. 2011). ZSM paratypes of *Creagrutus boehlkei* previously not listed in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

***Jobertina eleotrioides* Géry, 1960** (b)

Opusc. Zool., München, 47: 4, figs 2–3; photo p. 6.

Paratypes: ZSM 19355-19356 (2), little brook between "St. Patawa" and "St. Grand Bacou", middle Mana, between 53–54° W and 4–5° N (French Guiana); leg: J. Géry, 16.X.1957; don: Géry.

Remarks: ZSM 19355–19356 ex Che. 08-14-01 – Che. 08-14-13, private collection J. Géry. Appeared mistakenly as *"eleodrioides"* in the title of the original description. According to Buckup (in Reis et al. 2003) valid as ***Microcharacidium eleotrioides*** (Géry, 1960).

***Glandulocauda terofali* Géry, 1964**

Opusc. Zool., München, 78: 2–6, figs 1, 3–5.

Holotype: ZSM 22503a, male, 52.0 mm [SL], Canal "El Cazador" [canal connecting likely El Cazador with Rio Lujan], Rio Lujan, [NW of Greater Buenos Aires, Prov. Buenos Aires, 34°18'0.00" S / 58°46'0.00" W] (Argentina); leg: J. Foerster, 12.IX.1962.

Paratypes: ZSM 22141a (7 now 5), **ZSM 22503b** (6 now 4), same data as holotype.

Remarks. ZSM 22141 was originally registered from Terofal as mixed lot of 32 Characids ("Characide"): "1 *Curimatus* spec., 1 *Cheirodon interruptus*, 7 *Glandulocauda* (sp. nov. ?), 9 *Bryconamericus iheringii* and 14 *Astyanax fasciatus* ?" (Géry, writt. comm. 5.VI.1964). While Terofal re-inventoried most of the lots returned by Géry after separation of specimens from mixed lots with new ZSM numbers, he failed to do so for ZSM 22141. For unambiguous identification of type lots the ZSM numbers of the respective lots are changed as follows: ZSM 22141a (4), paratypes of *Glandulocauda terofali*; ZSM 22141b (14), *Astyanax fasciatus*. Terofal sent another mixed lot with Characins from the Foerster Collection to Géry for determination on 25 Apr. 1964. Géry (Géry, writt. comm. 5.VI.1964) confirmed the loan of Canal "El Cazador" material in a letter to Terofal: "22503 *Glandulocauda* sp. nov., 5 Ex. (+ 2 envoyés précédemment [previously received]), *Bryconamericanus iheringii*, 1 Ex.". Assuming that Géry's specimen counts in his letter are correct, 1 paratype out of ZSM 22503b and 3 paratypes out of ZSM 22141 are missing. A handwritten label of Géry included in ZSM 22141a reads "*Glandulocauda terofali*, ZSM 22141, partim". The 4 missing paratypes were recently rediscovered. Lot MHNG 2187.6 (3 of 4) contains a handwritten ZSM label in Terofal's hand reading "ZSM 22503" (Weber, pers. comm. Oct. 2005). Obviously Géry lumped specimens from ZSM 22141a and 22503b into one lot, CJG 0413 (4), from which MHNG received 3 specimens which are now retained in MHNG 2187.6. The 4th paratype was obviously transferred to ANSP and is now retained in ANSP 139721. This lot includes a label in Géry's hand reading "J. Géry No. 0413 *Glandulocauda terofali* Paratype Rép Argentine: Canal "El Cazader" Rio Lujan, Prov. Buenos Ayres, Coll. J. Foerster 12.9.1962" (Weitzman, pers. comm. V.2006). In MHNG 2187.6 a handwritten label indicates that he (Géry) loaned one specimen from CJG 0413 to Weitzman on 2 Oct. 1978. However, Weitzman received this specimen hand-carried by Rich Vari as ANSP 139721 (1) (ANSP loan invoice I-462 dated 9 Nov. 1978, Weitzman, pers. comm. May 2006). Exact assignment of MHNG 2187.6 and ANSP 139721 to either ZSM 22141a or ZSM 22503b irreproducible. According to Weitzman (in Reis et al. 2003: 224) valid as ***Diapoma terofali***.

***Hasemania crenuchoides* Zarske & Géry, 1999**

Spixiana 22 (1): 91–94, figs 1–2.

Paratypes: ZSM 22656a (55), [Upper Rio Sao Bartolomeu] Corrego Planaltina, highland of Goiaz (alt. 1050 m), near Brasilia (Brazil); leg: Harald Schultz, VIII.1965.

Remarks. Terofal registered two different lots with ZSM 22656, the paratype series and an additional lot with undetermined *Cheirodon* specimens, which were returned earlier by Géry. Both lots originate from the same mixed lot of Characids collected by Schultz that originally contained more than 90 specimens. For unambiguous identification, the ZSM numbers are changed as follows: ZSM 22656a (55), paratypes of *Hasemania crenuchoides*; ZSM 22656b (47), *Cheirodon stenodon*. Both lots ex ZSM 22656 (> 90 Ex.). Exchanged from ZSM 22656a: MZUSP 52732, holotype; MHNG 2594.44 (5), MTD 21538–42 (5) and MTD 21543–21545 (3, c&s), ZMB 32959 (5), CJG 1010.1–5 (5) now retained in MHNG 2594.44 (5), ZFMK 20543–47 (5), ZMB 32959 (5).

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Hemigrammus guyanensis **Géry, 1959** (a)

Bull. Mensuel Soc. Linn. Lyon 28 (8): 254–256, fig. 3

Paratype: ZSM 26750 (1), Crique Sable, tributary to the Upper Mana (French Guiana); leg: J. Géry, 22.X.1957.

Remarks. Exchanged from private collection J. Géry (written comm. 25. VII. 1963); ZSM 26750 (1) ex MHNG 2181.24 (online request of MHNG type catalogue Dec. 2010).

Luetkenia insignis **Steindachner, 1876**

Sitzungsber. Akad. Wiss. Wien 74 (1. Abth.): 85–88, pl. 8, fig 1.

Syntype: ZSM 23662 (1), Tabatinga, Amazonas (Brazil); leg: Wessel (?), no date.

Remarks. Likely part of the Kähsbauer Donations; however, the lot was not inventoried or marked containing type material by Schindler, but subsequently by Terofal. The lot includes a label from Coll. Mus. Vindobonensis, the former Collection of the University in Vienna. A handwritten note on it erroneously refers to a "Holotypus & Paratypen", but Steindachner did not select a holotype, thus all specimens are syntypes (Art. 73.2 ICZN). Species originally as *Lütkenia insignis*; correction of genus spelling mandatory (Art 5.3 ICZN). According to Reis (in Reis et al. 2003: 156–157) valid as ***Stichonodon insignis*** (Steindachner, 1876).

Microbrycon cochui **Ladiges, 1950**

Zool. Anz. 145 (11–12): 306–307, figs 1–3.

Syntypes: 5894–5899 (5), [Province] Ramón Castilla, upper Amazonas (Peru); leg: F. Cochu, I.1949; don: Dr. W. Ladiges.

Remarks. Based on 6 specimens; Ladiges did not fix a holotype, thus all specimens are syntypes (Art. 73.2 ICZN). The lot ZSM 5894–5899 is labeled with "Typus und Co-Typen", with the expression "Co-Typen" in the meaning of additional (syn)types. One of the syntypes was exchanged to J. Géry on 15.X.1959 probably by Terofal [CJG M 26 (5899)]; this specimen is now retained in MHNG (online request of MHNG type catalogue Dec. 2010). MHNG 2187.75 (1) ex ZSM 5894–5899 (6 now 5). The Eschmeyer Catalogue refers erroneously only to a total number of 4 syntypes (updated online version 25 Oct. 2010). According to Weitzman (in Reis et al. 2003) valid as ***Tyttocharax cochui*** (Ladiges, 1950).

Oligosarcus planaltinae **Menezes & Géry, 1983**

Rev. Suisse Zool. 90 (3): 564–566, fig. 1.

Paratypes: ZSM 26092 (1), "Córrego Planaltina, a tributary of the Rio São Bartolomeu (Paraná river system) near Brasilia, State of Goiás (Brazil)"; leg: H. Schultz, VIII.1965. **ZSM 26093 (1)**, same data.

Remarks. Collection site on lot label: "Highland of Goias, near Brasilia, alt.: 1050 m (Brazil)". ZSM 26093 originates obviously from ZSM 22657 (Géry, additional lot label); the type series was collected together with other species; all specimens were originally included in ZSM 22657, a mixed lot of 89 characids. Géry obviously retained single specimens of various species from this lot, probably including type material of *Oligosarcus planaltinae*. Two specimens, the holotype and one paratype, were apparently exchanged to other institutions: "These species [type material of *Oligosarcus planatinae* and *O. schindleri*] are part of the material loaned to me by your museum" …"the holotype, according to Brazilian law, has been deposited in the Museu de Zoologia, USP (Sao Paulo) [MZUSP 25718 (1)]" (Géry, writt. comm. 3 Sep. 1982). Not mentioned in his letter is another paratype, which was recently rediscovered in MHNG; MHNG 2098.12 (1) ex ZSM 22657 (89); lot ZSM 22657 is not traceable in the ZSM collection.

Oligosarcus schindleri **Menezes & Géry, 1983**

Rev. Suisse Zool. 90 (3): 566–571, fig. 2.

Holotype: ZSM 26095, "male, San Francisco de Chipiriri in a small tributary of the Rio Chapare (Rio Madeira basin), about 100 km E of Cochabamba [tentatively at 16°45'0.00" S / 65°18'30.00" W] (Bolivia)"; leg: Otto Schindler and Walter Forster, X.1953.

Paratype: ZSM 26094 (1), "female, Laguna Alalay, Cochabamba, altitude of 1,200–1,500 meters"; leg: Pater Luiz, Otto Schindler and Walter Forster, 13.X.1953.

Remarks. Type locality as given on the lot label of the holotype: "Lago Zischka, Rio Chipiriri / Chapare (Bolivia)". The sawmill of family Zischka, where these specimens have been collected, was situated in or near San Francisco de Chipiriri at Rio Chipiriri (Forster, 1955). Géry returned the types in 1982. Géry, stating in his letter that he returned "the holotype as well as 2 paratypes" …"all deposited in your collection" (see letter cited in the aforementioned species). However, only one paratype was returned to ZSM, while additional paratypes were apparently retained by Géry and exchanged to MZUSP and USNM. MZUSP 25719–20 (1, 1) and USNM, USNM 228088 (1) ex ZSM (uncat.).

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***Ossubtus xinguense* Jégu, 1992**

Ichthyol. Explor. Freshwaters 3 (3): 240–250, figs 4, 11.

Paratypes: ZSM 27765 (4), Rio Xingu at Altamira, Para (Brazil); don: A. Werner, XII.1989. **ZSM 28377 (1)**, same data.

Remarks. 1 paratype exchanged to MNHN, MNHN 1992-0003 (1) ex ZSM 27765 (5 now 4).

***Petitella georgiae* Géry & Boutière, 1964**

Vie Milieu, Suppl. 17: 474–482, fig. 1.

Paratypes: ZSM 26332 (3); shallow creek into Rio Huallaga, surrounding Lagunas, Loreto District (Peru); leg: Vincente Manuel, 1959.

Remarks. Paratypes were likely exchanged by Géry from his private collection (on 25.VII.1963 acc. to MHNG data). The original lot is now retained in MHNG, ZSM 26332 (3) ex MHNG 2150.65–88 31 now 24) (online request type catalogue of MHNG Dec. 2010).

***Pseudopristella simulata* Géry, 1960 (a)**

Senckenb. Biol. 41 (1/2): 18–22, pl. 2, fig. 1; figs 3–4.

Paratypes: ZSM 26762 (2), Criques cotiers pres de Sinnamary (French Guiana); leg: J. Géry, 11.XI. 1957.

Remarks. ZSM 26762 exchanged from private collection of J. Géry on 25.VII.1963 (out of CJG 57 T 27 E); lot now retained in MHNG: ZSM 26762 (2) ex MHNG 2172.80 (32 now 21) (online request of MHNG type catalogue Dec. 2010). According to Lima and Malabarba (in Reis et al. 2003: 140) valid as ***Hyphessobrycon simulatus***. Previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

***Tetragonopterus costae* Steindachner, 1907** (a)

Anz. Akad. Wiss. Wien 44 (6): 84.

Syntypes: ZSM **7586–7587 (2)**, "Rio Preto bei Joazeiro", Faz. Viana (Brazil); leg: Steindachner (?), 1903.

Remarks. Part of the Kähsbauer Donations from NMW (Wellendorf, pers. comm. 2001); ZSM 7586–7587 (2) ex NMW 57393 (ZSM lot includes a NMW label with transcribed data of NMW 57393). Specimens were collected during Steindachner's Brazil Expedition 1903; ZSM label only gives the location, Joazeiro; additional data on the type location are cited from the original description. According to Benine (in Reis et al. 2003) valid as ***Moenkhausia costae*** (Steindachner 1907). ZSM syntypes previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

***Tetragonopterus ocellifer* Steindachner, 1882**

Anz. Akad. Wiss. Wien 19 (19): 179.

Syntype: ZSM 5864 (1), Cudajas [Rio Solimões at Codajás, near Ihla Codajás] (Brazil); [leg: L. Agassiz, D. Bourget, 12.IX.1865] don: (?) Steindachner [1874].

Remarks. Schindler marked this lot as "Co-Type" in the ZSM inventory and on the included lot labels. The specimen was likely transferred prior to World War II, and tentatively survived in the (private ?) fish collection of Schindler, suggested from the inventory no. 3/1932. This number was later changed by Schindler into ZSM 5864. The syntype of *Tetragonopterus ocellifer* has been inventoried together with other species Schindler collected and which have been described as new prior or during the war (i. e. *Cheirodon kriegi*, *Pyrrhulina macrolepis*, *Sternarchus paranaensis*), and type material he received from Ladiges (i. e. *Microbrycon cochui*, *Thayeria sanctaemariae*). The specimen is neither included in Schindler's list of exchanged NMW specimens nor inventoried with specimens from the Kähsbauer Donations Schindler received from NMW. According to a label included in ZSM 5864 the syntype was exchanged for a syntype of *Labeo macmahoni* Zugmayer, 1912 (i. e. NMW 81256). However, the origin of ZSM 5864 from either of the two NMW lots containing syntypes from Cudajas (NMW 57689 (6) or NMW 19793–19832 (40 Ex.)) as well as the exchange itself could not be validated in NMW (Wellendorf, pers. comm. 17 Oct. 2005). "Don: Steindachner, 1874" on the ZSM label is probably a transcription of NMW data referring to the donation of material from Steindachner's private collection to NMW; "1874" is the acquisition year (Wellendorf, pers. comm. 2001). The ZSM specimen likely originates from the Thayer expedition; additional collection information [Thayer024] from Higuchi (1992 [1996, updated online version]). According to Lima & Oyakawa (in Reis et al. 2003) valid as ***Hemigrammus ocellifer*** (Steindachner, 1882); ZSM syntype previously not mentioned in the Eschmeyer Catalogue (updated online version, 25 Oct. 2010).

***Thayeria ifati* Géry, 1959** (c)

Senckenb. Biol. 40 (3/4): 128, figs 1–3.

Paratypes: ZSM 26763 (2), Criques vers Gaa Kaba, Maroni region (French Guiana); leg: J. Géry, 21.XI. 1957.

Remarks. Contradictory location data in Géry's hand on additional label included in this lot as given above; ZSM 26763 collected with the holotype. Specimens exchanged from the private collection of J. Géry, likely CJG 57T05b, the lot is now retained in MHNG; ZSM 26763 (2) ex MHNG 2173.40 (43 now 13) (online request of MHNG type catalogue Dec.

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2010). Previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Thayeria sanctaemariae Ladiges, 1951

Zool. Anz. 146 (5–6): 129, 1 fig.

Holotype (unique): ZSM 5893, St. Maria, south of Carolina, State Goias (Brazil); leg: (?) F. Cochu, I.1949; don: Dr. W. Ladiges.

Remarks. Based on a single specimen, originally published as "sanctae-mariae"; change mandatory (Art 5.3 ICZN). Fred Cochu was a commercial aquarium trader (Paramount Aquarium, New York); it remains unclear, if he actually collected or only exported this specimen. In synonymy with *Thayeria obliqua* Eigenmann 1908 (Lima & Moreira, in Reis et al. 2003, Lima pers. comm. 2011).

Chaudhuriidae

Nagaichthys filipes Kottelat & Lim in Kottelat, 1991 (c)

Ichthyol. Explor. Freshwaters 2 (3): 285–286, fig. 6.

Holotype: ZSM 27979, 27.5 mm SL, Sungei Pinyuh, 8 km southeast of Anjungan on road to Pontianak, Kalimantan Barat, Borneo, 0°20'N / 109°08'E, (Indonesia); leg: M. Kottelat, U. Schliewen, Joe Him, Freddy Liem & Ivan, 21.IV.1990.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38454 [ex ZSM 27979] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27979 (1) ex CMK 6660 and confirms the exchange from CMK to ZSM. The holotype is published as ZSM and not as part of "ZSM/CMK".

Cichlidae

Amphilophus globosus Geiger, McCrary & Stauffer, 2010

Proc. Biol. Soc. Washington 123 (2): 164–167, figs 3, 7 (middle right).

Holotype: ZSM 38822, 158.8 mm SL, Crater Lake Apoyo, western shore at "frente a ranchos", Dep. Masaya, 11°55'54.00" N / 86°03'10.80" W (Nicaragua); leg: L. Lopez, 11.IV.2009.

Paratypes: ZSM 38755 (1), 106.2 mm SL, Crater Lake Apoyo, northwestern shore at "frente Lorenzo Guerrero", Dep. Masaya, 11°55'13.07" N / 86°03'24.10" W (Nicaragua); leg: L. Lopez, 11.IV.2009. **ZSM 38756 (1)**, 95.7 mm SL, **ZSM 38758 (3)**, 110.2–111.2 mm SL and **ZSM 38759 (3)**, 130.0–135.8 mm SL, same data as holotype. **ZSM 38757 (3)**, same location as holotype; leg: L. Lorenzo, 13.IV.2009.

Amphilophus supercilius Geiger, McCrary & Stauffer, 2010

Proc. Biol. Soc. Washington 123 (2): 161–164, figs 1, 7 (lower left).

Holotype: ZSM 38821, 166.6 mm SL, Crater Lake Apoyo, northeastern shore at "Bajadero Granada" [spanish coast], Dep. Masaya, 11°56'05.43" N / 86°00'46.88" W (Nicaragua); leg: L. Lopez and M. Geiger, 27.II.2007.

Paratypes (all from Crater Lake Apoyo, Dep. Masaya)**: ZSM 37347 (1)**, 163.6 mm SL, **37348 (1)** 142.4 mm SL, and **37351 (2)**, 157.8–166.7 mm SL, southern shore at rock formation "Los Hongos", 11°54'20.79" N / 86°1'45.40" W; leg: L. Lopez and M. Geiger, 11.II.2008. **ZSM 38751 (2)**, 143.2–146.3 mm SL, and **ZSM 38753 (3)**, 129.8–148.9 mm SL, western shore at "Escuela", 11°56'14.59" N / 86°03'10.00" W; leg: L. Lopez and M. Geiger, 15.I.2007. **ZSM 38752 (1)**, 159.9 mm SL, Frente Cruz de Mayo, Dep. Masaya, 11°55'29.14" N, 86°03'22.04" W (Nicaragua); leg: L. Lopez & M. Geiger, 17.IV.2009. **ZSM 38754 (3)**, 150.8 mm SL, same data as holotype.

Remarks. PSU 4768 (2 – specimen ID's NIC 251 and 252) ex ZSM 38754 (3 now 1). Additional material (non types): ZSM 37353 (1), 38761 (2), 38776 (3), 38777 (1), 38778 (1), 38779 (1), 38780 (1), 39148 (1).

Apistogramma norberti Staeck, 1991

Ichthyol. Explor. Freshwaters 2 (2): 140–146, figs 1–10.

Paratypes: ZSM 27974 (2), "1 male, 1 female", Basin of Rio Tahuayo, creek entering Quebrada Nuevo Horizonte, Dept. Loreto, about 73°5'W / 4°5'S (Peru); leg: W. Staeck and Ch. Kasselmann (loc.: P 14/90), 4.VIII.1990.

Crenicara latruncularium Kullander & Staeck, 1990

Cybium 14 (2): 163–170, figs 1–3.

Paratypes: ZSM 27606 (6), Rio Guaporé, sand bank 20 km downstream of Vila Bela da Santissima, Mun Vila Bela da Santissima Trinidade, Est. Mato Grosso (Brazil); leg: W. Staeck, "8.VIII.1987".

Remarks. Date quoted from original description.

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Chaetobranchus orbicularis **Steindachner, 1875**

Sitzungsber. Akad. Wiss. Wien 71 (1. Abth.): 133–136, pl. 8.

Syntypes: 27744 (2), "Porto do Moz", Pará [Thayer100: Porto de Moz, 1°45'S / 52°10'W] (Brazil); leg: [Vinhas, IX.1865].

Remarks. Syntypes originate from the Thayer Expedition. ZSM 27744 (2) ex Coll. Musei Vindobonensis, ZSM 27744 ex NMW 58202 (4 now 2), now retained in NMW (original NMW lot not traceable); material is part of the Kähsbauer Donations from NMW. Additional location information from Higuchi (Higuchi 1992 [1996, updated online version]). According to Kullander (in Reis et al. 2003) valid as ***Chaetobranchopsis orbicularis*** (Steindachner, 1875).

Chaetobranchus semifasciatus **Steindachner, 1875**

Sitzungsber. Akad. Wiss. Wien 71 (1. Abth.): 130–133, pl. 7.

Syntype: ZSM 27671 (2), "Teffé" [Thayer137: 3°24'S / 64°45'W] (Brazil); leg: [Agassiz, L. et al.] don: (?) I.1874 Coll. Steindachner.

Remarks. Syntypes originate from the Thayer Expedition. ZSM 27671 (2) ex. Coll. Musei Vindobonensis (now retained in NMW) uncat. (4 now 2); material is part of the Kähsbauer Donations from NMW. The date I.1874 on ZSM lot label refers to the acquisition of the Collection Steindachner in NMW and gives not the actual collection date. (Wellendorf, pers comm. 2001). No. 893d (loc. or field no.?). Additional location information from Higuchi (Higuchi 1992 [1996, updated online version]).

Chromidotilapia bosumtwensis **Paulo, 1979**

Dtsch. Cichliden-Ges. Inf. 10(9): 167–174, 2 figs.

Holotype: ZSM 24989/5, male, Lake Bosumtwi off village Abono, night catch, Ashanti Region (Ghana); leg: J. Paulo, 28/29.I.1979.

Paratypes: ZSM 24989/1 (1), female, same data as holotype. **ZSM 24989/2 (1)**, female, same data as holotype. **ZSM 24989/4 (1)**, male, same data as holotype. **ZSM 24989/6 (1)**, male, same data as holotype. **ZSM 24909/3 (1)**, female, same data as holotype.

Remarks. Published in original description under the informal (not official) abbreviation "SMM" [likely Sammlung Museum München], which was used by few authors instead of ZSM. Holotype and paratypes not found during a type search in July 2005 (D. Neumann); the type material may be hidden among Paulo's material that ZSM received after his death. Terofal registered part of the material with pencilwritten ZSM-numbers in the inventory, but did not revise and label the (available ?) material correspondingly. According to Lamboj questionably a synonym of *Chromidotilapia guentheri guentheri* (Lamboj, 1994).

Crenicichla percna **Kullander, 1991** (a)

Ichthyol. Explor. Freshwaters 1(4): 356–358, figs 3–4.

Paratype: ZSM 27959(1), male, Rio Xingu at Altamira, Est. Pará (Brazil); don: A. Werner, X.1990.

Remarks. Commercial aquarium import, Transfish, Planegg.

Congochromis pugnatus **Stiassny & Schliewen, 2007**

Amer. Mus. Novitates 3576: 6–11, figs 2–5.

Paratypes: ZSM 34981 (2), 37.0–49.2 mm SL, Kisangani (Stanleyville) (Democratic Republic of Congo); leg: H. Lang and J. P. Chapin, May 1915.

Remarks. ZSM 34981 (2) ex AMNH 6079.

Etia nguti **Schliewen & Stiassny, 2003**

Ichthyol. Explor. Freshwaters 14(1): 63–67, figs 1–4.

Holotype: ZSM 29429, Mamfue River, Cross River basin, within the town of Nguti, Nguti Subdivision, Southwest Province, 5°19'41"N / 9°25'15"E (Cameroon); leg: U. K. Schliewen, III.1993.

Paratypes: ZSM 29430 (4), same data as holotype.

Geophagus agassizii **Steindachner, 1875**

Sitzungsber. Akad. Wiss. Wien 71 (1. Abth.): 61–137, pls 1–8.

Paralectotypes: ZSM 6086 (3), "Cudajas" [Rio Slimoes at Codajas, near Ihla Codajas] (Brazil); [leg: L. Agassiz and D. Bourget, 12.IX.1865].

Remarks. Part of the Kähsbauer Donations, ex NMW 23519–529 (11 now 8). According to the ZSM inventory originally 3 specimens for ZSM 6086; one of the paralectotypes in ZSM is apparently missing. Supplemental information on the location from Higuchi (Higuchi 1992 [1996, updated online version]) and recovered from NMW inventory; year "1874" on ZSM label refers to acquisition date of Steindachner's Collection in NMW and gives not the actual collection date (Wellendorf, pers. comm. 2001). ZSM paralectotypes previously not listed in the Eschmeyer Catalogue (updated online version 25 Oct. 2005). Lectotype selected by Kullander (1980); valid as ***Apistogramma agassizii*** (Kullander in Reis et al. 2003).

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***Geophagus argyrostictus* Kullander, 1991** (b)

Cybium 15 (2): 130–135, figs 1–4

Paratypes: ZSM 27494 (3), Rio Xingu, Balneario Pedral, about 8 km S of Altamira, Est. Pará (Brazil); leg: R. Stawikowski, B. Kilian and U. Schliewen, 24.IX.1988.

Remarks. Exchanged from NRM; ZSM 27494 (3) ex NRM A88 / 1988386.3997.

***Haplochromis ampullarostratus* Schraml, 2004**

Dtsch. Cichliden-Ges. Inf., Sonderheft 3: 31–35, 3 figs.

Holotype: ZSM 29758, [field-id 9610] male, 72.3 mm SL, Lake Kachira at Lulagala, 0°36.360' S / 31°05.545' E (Uganda); leg: E. Schraml, 26.X.1999.

Paratypes: ZSM 29759 (5), males: [field-id 9608] 60.6 mm SL; [field-id 9620] 66.4 mm SL; [field-id. 9635] 64.4 mm SL; [field-id 9636] 62.6 mm SL; female: [field-id ES99-1] 68.0 mm SL; same data as holotype.

***Haplochromis commutabilis* Schraml, 2004**

Dtsch. Cichliden-Ges. Inf., Sonderheft 3: 36–42, 9 figs.

Holotype: ZSM 29760, [field-id 9643] male, 103.7 mm SL, Lake Kachira at Lulagala, 0°36.360' S / 31°05.545' E (Uganda); leg: E. Schraml, 26.X.1999.

Paratypes: ZSM 29761 (10), males: [field-id ES99-82] 103.1 mm SL; [field-id 9669] 91.9 mm SL; [field-id ES99-79] 100.2 mm SL; [field-id ES99-83] 83.5 mm SL; [field-id 9667] 98.6 mm SL; [field-id 9803] 99.0 mm SL; females: [field-id 9644] 79.8 mm SL; [field-id 9645] 78.6 mm SL; [field-id 9664] 84.8 mm SL; [field-id 9614] 75.9 mm SL; same collecting data as holotype.

Remarks. Male [9803] kept for considerable time in aquarium prior to preservation.

***Haplochromis exspectatus* Schraml, 2004**

Dtsch. Cichliden-Ges. Inf., Sonderheft 3: 20–23, 3 figs.

Holotype: ZSM 29756, [field-id 9603] male, 85.3 mm SL, Lake Kijanebalola south of Rakai, 0°41.195' S / 31°24.291' E (Uganda); leg: E. Schraml, 25.X.1999.

Paratypes: ZSM 29757 (2), females, [field-id 9602] 80.6 mm SL, [field-id 9679] 70.1 mm SL, same data as holotype.

***'Haplochromis' snoeksi* Lunkayilakio & Vreven, 2010**

Ichthyol. Explor. Freshwaters 21 (3): 281–284, fig. 1.

Paratype: ZSM 37852 (1), male, 93.0 mm SL, Lower Congo River, Ngeba / Ngufu River at Ngeba, affluent of Inkisi River, alt. 533 m, Prov. Bas-Congo, 5°11' 01.5" S / 15°12'23.1" E (Democratic Republic Congo); leg: S. Wamuini Lunkayilakio, 10.I.2007.

Remarks. ZSM 37852 (1) ex MRAC 2007-009-P-0002.

***Lamprologus meleagris* Büscher, 1991** (a)

D. Aquar. Terrar. Z. (DATZ) 44 (6), 1991a: 375–376, figs 3, 8–10.

Holotype: ZSM 27968, Lake Tanganjika, close to village Bwassa, approx. 65 km S of Moba, Shaba Province, 7°25' S / 30°10' E (Democratic Republic of Congo); leg: H. Büscher, 26.VIII.1990.

Paratypes: ZSM 27969 (3), same data as holotype. **ZSM 27970 (3)**, same data as holotype.

Remarks. ZSM 27970 (3) is permanently exchanged to MRAC: MRAC 94-05-P-12-14 (3) ex ZSM 27970 (3) (for details regarding the splitting of the type series see Introduction).

***Lamprologus speciosus* Büscher, 1991** (a)

D. Aquar. Terrar. Z. (DATZ) 44 (6), 1991a: 378–380, figs 4, 12.

Holotype: ZSM 27971, Lake Tanganjika, close to village Bwassa, approx. 65 km S of Moba, Shaba Province, 7°25' S / 30°10' E (Democratic Republic of Congo); leg: H. Büscher, 26.VIII.1990.

Paratypes: ZSM 27972 (3), same data as holotype. **ZSM 27973 (2)**, same data as holotype.

Remarks. Following specimens permanently exchanged to MRAC: 1 specimen out of ZSM 27972, MRAC 94-05-P-19 (1) ex ZSM 27972 (4 now 3); the lot ZSM 27973 (2) is permanently exchanged to MRAC, MRAC 94-05-P-20–21 (2) ex ZSM 27973 (2) (for details regarding the splitting of the type series see Introduction).

***Nanochromis wickleri* Schliewen & Stiassny, 2006**

Zootaxa 1169: 35–43, figs 1–3.

Holotype: ZSM 29695, male, Lake Mai Ndombe, close to Inongo, south of harbour, Prov. Bandundu, 1°56' 30" S / 18°16'15" E (Democratic Republic of Congo); leg: U. Schliewen, 29.VIII.–4.IX.2002.

Paratypes: ZSM 29696 (1), female, 50.2 mm SL, same data as holotype. **ZSM 33989a (4)**, same data as holotype. ZSM 33989b (1, c&s), same data as holotype.

Remarks. AMNH 236666 (1, c&s) and AMNH 236665 (1) ex ZSM 33989 (7 now 5); lot ZSM 33989 (5) subdivided into ZSM 33989a (4) and ZSM 33989b (1, c&s) for separate storage of cleared and stained specimen.

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Neolamprologus marunguensis **Büscher, 1989**

D. Aquar. Terrar. Z. (DATZ) 42 (12): 739–742, figs 1, 3.

Holotype: ZSM 27329, Lake Tanganjika, close to Kapampa, 80 km S of Moba, Shaba Province, 7°39' S / 30°10' E (Democratic Republic of Congo); leg: H. Büscher and U. Brunner, 4.X.1988.

Remarks. Permanently exchanged to MRAC: MRAC 94-05-P-23 (1), ex ZSM 27330 (1), complete lot transferred (for details regarding the splitting of the type series see Introduction). Holo- and paratype were kept in aquarium for two months, preserved on 13 Dec. 1988.

Neolamprologus nigriventris **Büscher, 1992** (b)

D. Aquar. Terrar. Z. (DATZ) 45 (12), 1992b: 779–781, figs 1–2, 5.

Holotype: ZSM 28412, Lake Tanganjika, in the summit of Lunangwa-Fjord, approx. 110 km S of Moba, Shaba Province, 7°50' S / 30°30' E (Democratic Republic of Congo); leg: H. Büscher, 10.IX.1990.

Paratypes: ZSM 28413 (2), same data as holotype. ZSM 28414 (1), near village Kalo, approx. 10 km N of Lunangwa-Fjords; 7°45' S / 30°30' E (Democratic Republic of Congo); leg: H. Büscher, 25.IV.1991.

Remarks. Permanently exchanged to MRAC: MRAC 94-05-P-27 (1) ex ZSM 28413 (3 now 2); MRAC 94-05-P-28 (1) ex ZSM 28414 (1), transfer of complete lot (for details regarding the splitting of the type series see Introduction).

Neolamprologus pectoralis **Büscher, 1991** (b)

D. Aquar. Terrar. Z. (DATZ) 44 (12), 1991b: 788–790, figs 1, 3–5.

Holotype: ZSM 28094, Lake Tanganjika, close to village Tembwe, approx. 40 km S of Moba, Shaba Province, 7°10' S / 30°00' E (Democratic Republic of Congo); leg: H. Büscher, 9.V.1991.

Paratypes: ZSM 28095 (1), same data as holotype. **ZSM 28096 (1)**, Lake Tanganjika, close to village Kizike, approx. 70 km S of Moba, Shaba Province, 7°25' S / 30°10' E (Democratic Republic of Congo); leg: H. Büscher, 27. VIII.1990.

Remarks. Permanently exchanged to MRAC: MRAC 94-05-P-31–32 (2) ex ZSM 28095 (3 now 1) (for details regarding the splitting of the type series see Introduction).

Neolamprologus similis **Büscher, 1992** (a)

D. Aquar. Terrar. Z. (DATZ) 45 (8), 1992a: 520–521, figs 1, 3–5, 7, 9.

Holotype: ZSM 28381, Lake Tanganjika, approx. 5 km S of village Zongwe, Shaba Province, 7°18' S / 30°13' E (Democratic Republic of Congo); leg: H. Büscher, 7.X. 1989.

Paratypes: ZSM 28383 (2), Lake Tanganjika, close to village Tembwe, approx. 40 km S of Moba, Shaba Province, 7°10' S / 30°00' E (Democratic Republic of Congo); leg: H. Büscher, 20.IV.1991.

Remarks. Permanently exchanged to MRAC: MRAC 94-05-P-35–37 (3) ex ZSM 28382 (3), transfer of complete lot (for details regarding the splitting of the type series see Introduction).

Sarotherodon knauerae **Neumann, Stiassny & Schliewen, 2011**

Zootaxa 2765: 7–10, figs 4, 5a, 6, 8a, 8c.

Holotype: ZSM 29924, male, 75.2 mm SL, Lake Ejagham, Cross River basin, Manyu Subdivision, South-West Prov., 5°45' N / 8°59' E (Cameroon); leg: U. Schliewen, II–III.1993.

Paratypes: ZSM 29925 (11), 52.5–76.7 mm SL; **ZSM 29926 (10)**, 54.9–73.7 mm SL; **ZSM 29927 (5)**, 29.0–39.6 mm SL; **ZSM 29928 (28)**, 45.0–63.6 mm SL, all paratypes same data as holotype.

Remarks. Exchanged out of ZSM 29928 (34 now 28): AMNH 233728 (2), 52.8–60.9 mm SL; ANSP 188864 (2), 52.2–56.7 mm SL; MRAC 2004-04-P-1–2 (2), 59.2–59.5 mm SL. Lectotype reference for *Sparus galilaeus* (Linnaeus, 1758) in Neumann et al. (2011: 18) erroneous.

Sarotherodon lamprechti **Neumann, Stiassny & Schliewen, 2011**

Zootaxa 2765: 11–17, figs 5b, 7, 8b, 8d, 9.

Holotype: ZSM 29929, male, 98.61 mm SL, Lake Ejagham, Cross River basin, Manyu Subdivision, South-West Prov., 5°45' N / 8°59' E (Cameroon); leg: U. Schliewen, II.–III.1993.

Paratypes: ZSM 29930 (3), 83.2–104.9 mm SL; **ZSM 29931 (1)**, 101.0 mm SL; **ZSM 29932 (3)**, 95.1–104.8 mm SL; **ZSM 29933 (6)**, juveniles 26.3–50.2 mm SL; **ZSM 29934 (21)**, 85.6–103.1 mm SL; **ZSM 39716 (1)**, juvenile, 89.36 mm SL; **ZSM 39717 (1)**, 57.73 mm SL; **ZSM 39718 (7)**, 88.68–103.22 mm SL; all paratypes same data as holotype.

Remarks. AMNH 233728 (2), 96.0–104.9 mm SL, ex ZSM 29931 (3 now 1). MRAC 2004-04-P-3–4 (2), 92.6–94.6 mm SL, ex ZSM 29930 (5 now 3).

Tilapia bakossiorum **Stiassny, Schliewen & Dominey, 1992**

Ichthyol. Explor. Freshwaters 3 (4): 327–329, figs 9, 10a, 11; pl. 1d.

Holotype: ZSM 27636, Lake Bermin, Southwest Prov-

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ince, Nguti Subdivision [5°9'30.00" N / 9°38'0.00" E] (Cameroon); leg: U. Schliewen, I.1990.

Paratypes: ZSM 27637 (3), same data as holotype.

Remarks. GPS data of type location in original description erroneous and corrected as given above. Specimens caught with a dip-net.

Tilapia bythobates Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters, 3(4): 324–327, figs 7–8; pl. 1c.

Paratypes: ZSM 27638 (10), Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00" N / 9°38'0.00" E] (Cameroon); leg: U. Schliewen, I.1990. **ZSM 27681 (15)**, same data.

Remarks. GPS data of type location in original description erroneous and corrected as given above. Specimens were caught with a gill-net set at bottom close to the lake centre.

Tilapia ejagham Dunz & Schliewen, 2010 (b)

Spixiana 33(2): 258–262, figs 9–10.

Holotype: ZSM 40074, female, 174.7 mm SL, Lake Ejagham, Southwest Prov., Manyu Subdivision, 5°45' N / 8°59' E (Cameroon); leg: U. Schliewen, III.1993 / X.1994.

Paratypes: ZSM 40075 (25), 76.0–199.5 mm SL, same data as holotype.

Remarks. Additional material (non types): ZSM 40076 (23), 46.6–186.6 mm SL. Collection data of type series corrected as follows: collection date of holotype as given above. All paratypes and additional specimens have the same data as, but were not necessarily collected together with the holotype.

Tilapia flava Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 322–324, figs 5–6; pl. 1b.

Paratypes: ZSM 27635 (20), Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00" N / 9°38'0.00" E] (Cameroon); leg: U. Schliewen, I.1990.

Remarks. GPS data of type location in original description erroneous and corrected as given above.

Tilapia fusiforme Dunz & Schliewen, 2010 (b)

Spixiana 33(2): 270–274, figs 20c, 21–22.

Holotype: ZSM 40082, 44.9 mm SL, Lake Ejagham, Southwest Prov., Manyu Subdivision, 5°45' N / 8°59' E (Cameroon); leg: U. Schliewen, III.1993 / X.1994.

Paratypes: ZSM 40083 (15), 44.9–59.5 mm SL & **ZSM 40086 (10)**, 41.4–52.7 mm SL, same data as holotype.

Remarks. Additional material (non types): ZSM 40084 (17), 60.3–78.0 mm SL; ZSM 40085 (14), 41.6–60.8 mm SL; ZSM 40087 (15), 57.9–80.0 mm SL, all same data as holotype. Collection data of type series corrected as follows: collection date of holotype as given above. All paratypes and additional specimens have the same data as, but were not necessarily collected together with the holotype.

Tilapia gutturosa Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 341–343, figs 21–22; pls 1e–f.

Paratypes: ZSM 28200 (20), Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00" N / 9°38'0.00" E] (Cameroon); leg: U. Schliewen, I.1990.

Remarks. GPS data of type location in original description erroneous and corrected as given above. Specimens were caught with a small gill-net set at bottom of lake.

Tilapia imbriferna Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 316–322, figs 3–4; pl. 1a.

Paratypes: ZSM 27631 (1), Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00" N / 9°38'0.00" E] (Cameroon); leg: U. Schliewen, I.1990. **ZSM 27651 (8)**, same data.

Remarks. GPS data of type location in original description erroneous and corrected as given above.

Tilapia nigrans Dunz & Schliewen, 2010 (b)

Spixiana 33(2): 266–270, figs 19, 20a–b.

Holotype: ZSM 40079, 117.5 mm SL, Lake Ejagham, Southwest Prov., Manyu Subdivision, 5°45' N / 8°59' E (Cameroon); leg: U. Schliewen, III.1993 / X.1994.

Paratypes: ZSM 40080 (17), 105.5–151.0 mm SL, same data as holotype.

Remarks. Additional material (non types): ZSM 40081 (5), 74.5–150.3 mm SL, same data as holotype. Collection data of type series corrected as follows: collection date of holotype as given above. All paratypes and additional specimens have the same data, but were not necessarily collected together with the holotype.

Tilapia pra Dunz & Schliewen, 2010 (a)

Zootaxa 2548: 1–21, figs 3–6.

Holotype: ZSM 36123, 83.5 mm SL, Anum River, tributary to Pra River, at Anumso village, Ashanti Region, 6°25'44.32" N / 1°17'59.54" W (Ghana); leg: D. Neumann, George Baffur Entwi, 29.X.2002.

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Paratypes: ZSM 36116 (1), 84.2 mm SL; **ZSM 36117 (1)**, 110.1 mm SL; **ZSM 36118 (1)**, 73.1 mm SL; **ZSM 36119 (1)**, 76.6 mm SL; **ZSM 36120 (1)**, 77.7 mm SL; **ZSM 36121 (1)**, 73.7 mm SL; **ZSM 36122 (1)**, 76.1 mm SL; **ZSM 36124 (1)**, 81.1 mm SL; **ZSM 36125 (1)**, 79.1 mm SL; all collected with holotype. **ZSM 36149 (1)**, 62.6 mm SL, Oda River, tributary to Pra, floodplain and small affluent left to road entrance at bridge on road Bekwai–Awiankwata, Ashanti Region, 6°27'N / 1°37'W (Ghana); leg: D. Neumann and K. Mensa, 2.XI.2002. **ZSM 39000 (3)**, 48.7–58.4 mm SL, Draw River at new bridge, Western Region, 5°10'04"N / 2°15'20"W (Ghana); leg: U. Schliewen, 10.III-30.IV.1998. **ZSM 39001 (1)**, 108.2 mm SL, Tano at Mempansem, Western Region, 5°22'12"N / 2°39'36"W (Ghana); leg: U. Schliewen, 10.III –30.IV.1998. **ZSM 39005 (2)**, 40.3–58.8 mm SL, Nyelei River, tributary to Ankobra, near Akropong at the new bridge, Western Region, 5°5'6"N / 2°17'13"W (Ghana); leg: U. Schliewen, 10.III–30.IV.1998.

Remarks. AMNH 250601 (1), 57.7 mm SL, ex ZSM 36149 (2 now 1), AMNH 250602 (1), 54.7 mm SL, ex ZSM 39005 (3 now 2).

Tilapia snyderae Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 330–332, figs 12–13; pls 1e, 2a.

Paratypes: ZSM 27630 (27), Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00"N / 9°38'0.00"E] (Cameroon); leg: U. Schliewen, I.1990. **ZSM 27652 (2)**, same data.

Remarks. GPS data of type location in original description erroneous and corrected as given above.

Tilapia spongotroktis Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 337–341, figs 18–19, 20a–b; pl. 2d.

Paratypes: **ZSM 27629 (17)**, Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00"N / 9°38'0.00"E] (Cameroon); leg: U. Schliewen, I.1990. **ZSM 27682 (3)**, same data.

Remarks. GPS data of type location in original description erroneous and corrected as given above. AMNH 98271 (4) ex ZSM 27629 (21 now 17); ZSM 27629 subdivided as follows: ZSM 27629a (17 now 16) and ZSM 27629b (1, c&s).

Tilapia thysi Stiassny, Schliewen & Dominey, 1992

Ichthyol. Explor. Freshwaters 3(4): 335–337, figs 16–17; pl. 2c.

Holotype: ZSM 28390, mature male, Lake Bermin, Southwest Province, Nguti Subdivision [5°9'30.00"N / 9°38'0.00"E] (Cameroon); leg: U. Schliewen, I.1990.

Paratypes: ZSM 27628 (10), same data as holotype. **ZSM 27633 (2)**, same data as holotype.

Remarks. GPS data of type location in original description erroneous and corrected as given above. Lots ZSM 27628 and ZSM 27633 subdivided as follows: ZSM 27628a (10 now 9), ZSM 27628b (1, c&s); ZSM 27633a (2 now 1), ZSM 27633b (1, c&s).

Xenotilapia papilio Büscher, 1990

D. Aquar. Terrar. Z. (DATZ) 43(5): 289–291, figs 1–3, 5.

Holotype (unique): ZSM 27615, Lake Tanganjika, approx. 40 km S of Moba, Shaba Province, 7°10'S / 30°00'E (Democratic Republic of Congo); leg: H. Büscher, 8.X. 1989.

Remarks. Based on a single specimen. Holotype kept in aquarium for two months; preserved on 1 Dec. 1989. Specimen on long term loan for further studies on the genus *Xenotilapia* from ZSM to MRAC. To be transferred to ZSM in 2016 (J. Snoeks, email comm. 29.IV.2011).

Claroteidae

Chrysichthys praecox Hardman & Stiassny, 2008

Ichthyol. Explor. Freshwaters 19(2): 177–181, figs 1–2.

Paratypes: ZSM 37318 (4), Lake Nkolentulu, W of Lake Mai-Ndombe, Prov. Bandundu, 1°33'39"S / 18°42'43"E (Democratic Republic of Congo); leg: R. C. Schelly, J. R. Schelly, H. Lowenstein and N. Zanga, 04.III.2007.

Remarks. The data for ZSM 37318 in the original description is erroneous and needs to be corrected: ZSM 37318 (4) ex AMNH 242583 (287 now 283), collected from Lake Nkolentulu; remaining specimens in AMNH 242583 are non-types (B. Brown, pers. comm. 25 Oct. 2010).

Citharinidae

Nannocharax signifer Moritz, 2010

Ichthyol. Explor. Freshwaters 20(4): 290–292, figs 1–2.

Paratype: ZSM 38568 (1), 34.1 mm SL, Forêt d'Agrimè, about 7 kilometers east of Zogbodome, Hlan River, 7°03'58"N / 2°10'56"E (Benin); leg: T. Moritz and O. Sawadogo, 21.II.2007.

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Nannocharax usongo **Dunz & Schliewen, 2009**

Zootaxa 2028: 10–13, figs 5a–c, 6.

Holotype: ZSM 35732, 44.2 mm SL, River Cross at Mamfé, downriver road bridge, South-West Prov., 5°46'0.00" N / 9°18'38.00" E (Cameroon); leg: U. Schliewen, II.2002.

Paratypes: ZSM 35733 (8), 25.0–40.4 mm SL, same data as holotype.

Remarks. ZSM 35732 (1) ex ZSM 35733 (9 now 8).

Nannocharax zebra **Dunz & Schliewen, 2009**

Zootaxa 2028: 5–10, figs 3a–b, 4.

Holotype: ZSM 35730, 29.1 mm SL, River Cross at Mamfé, downriver road bridge, South-West Province, 5°46'0.00" N / 9°18'38.00" E (Cameroon); leg: U. Schliewen, II.2002.

Paratypes: ZSM 35731 (4), 28.2–32.5 mm SL, same data as holotype.

Remarks. ZSM 35730 (1) ex ZSM 35731 (5 now 4).

Neolebias powelli **Teugels & Roberts, 1990**

J. Afr. Zool. 104: 61–64, figs 1–4.

Paratypes: ZSM 26828 (50), River Sombreiro near Ahoada, Niger Delta, "5°05' N / 6°39' E" (Nigeria); leg: T. R. Roberts, 8.XII.1988.

Remarks. ZSM 26828 (50) ex MNHN 1988-1148.

Cobitidae

Cobitis hellenica **Economidis & Nalbant, 1996**

Trav. Mus. Hist. Nat. "Grigore Antipa" 36: 311–313, figs 10a–f, 12g–i.

Paratypes: ZSM 27086 (2), Barbanakos springs near village Stephani, catchment of Louros river (Greece); leg: P. Economidis, 25.VIII.1987.

Remarks. First appeared in Economidis 1991: 28, 41, figs 1–2; name not available from this description because no distinguishing features or the type locality are given (see Kottelat 1997: 90, here as *Cobitis* sp. 2). Also appeared as name only in Economidis (1992): 49, 75. Previously in Eschmeyer Catalogue as ZSM [uncat.] (updated online version 25 Oct. 2005).

Cobitis punctilineata **Economidis & Nalbant, 1996**

Trav. Mus. Hist. Nat. "Grigore Antipa" 36: 314–316, figs 11, 12 j–l.

Paratype: ZSM 27084 (1), Channels near village Philippi, Macedonia (Greece); leg: P. Economidis, 7.VII.1988.

Remarks. ZSM 27084 (1) ex ISBB [uncat.]. Either the location or the origin of the paratype as given on ZSM label is erroneous. According to the original description only one ISBB lot is included in the paratype series, ISBB 4576 (3). It originates from "Strymon-Aggitis catchment, channels near the Kalambaki village, Drama, Macedonia Greece, 14 October 1989, Economidis and Bănărescu coll.". If ZSM 27084 originates from ISBB 4576, the data should be corrected accordingly. Otherwise, if the location on the ZSM label is given correct, ZSM 27084 (1) was likely exchanged from MZUT 1988-72 (15), since this is the only lot in the type series from this location; needs further research. First appeared in Economidis 1991: 28, 41 (fig. 4); name not available from this description as no distinguishing features or a type locality are given [Greece] (Kottelat 1997: 90, who lists the species as *Cobitis* sp. 1). Appeared as name only also in Economidis (1992): 49, 75. Previously not included in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Cyprinidae

Amblypharyngodon chulabornae **Vidthayanon & Kottelat, 1990**

Nat. Hist. Bull. Siam Soc. 38 (1): 47–51, figs 2–6.

Paratypes: ZSM 27120 (5), Stung Sang, Kampuchea (Thailand); leg: F. d'Aubenton, 3.VIII.1962. **ZSM 27191 (3)**, Ayuthaya (Thailand); leg: C. Vidthayanon, 11.XII.1988. **ZSM 27119 (16)**, road from Phnom Penh to Kompong Cham, Kampuchea (Cambodia); leg: F. d'Aubenton, 2.VIII.1962.

Remarks. Paratypes not listed in Eschmeyer Catalogue (online version updated 25 Oct. 2010).

Danio pathirana **Kottelat & Pethiyagoda, 1990**

Ichthyol. Explor. Freshwaters 1 (3): 247–252, figs 1–2.

Holotype: ZSM 27768, 59.0 mm SL, tributary of Opatha Ela, descending from Kanneliya Forest Reserve to Opatha Nilwala Ganga basin, 6°15'40" N / 80°23'45" E, (Sri Lanka); leg: M. Kottelat and R. Pethiyagoda, 13.IV.1990.

Paratypes: "ZSM/CMK" 7138 (9), 7179 (19).

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann), but has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38456 [ex ZSM 27768] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be

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returned. The holotype is published as ZSM and not as part of "ZSM/CMK". No paratypes are deposited in ZSM; for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK" see Introduction.

Labeo fulakariensis Tshibwabwa, Stiassny & Schelly, 2006

Zootaxa 1224: 38–40, figs 3–4.

Paratype: ZSM 34488 (1), Lower Congo River, Rapids near Yelala, 5°43.51' S / 13°32.50' E (Democratic Republic of Congo); leg: B. Schelly, U. Schliewen, 12.VII.2005.

Oreichthys crenuchoides Schäfer, 2009

Ichthyol. Explor. Freshwaters 20 (3): 205–209, figs 6–10.

Holotype: ZSM 35100, 21.7 mm SL, River Jorai, a tributary of Brahmaputra River, near border with Assam, Coochbehar District, West Bengal, 26°27'35" N / 89° 46'24" E (India); leg: D. Nopany, 24.XI.1999, don: F. Schäfer.

Paratypes: ZSM 35099 (11), same data as holotype.

Probarbus labeaminor Roberts, 1992

Ichthyol. Explor. Freshwaters 3 (1): 46–47, figs 3b, 5.

Paratype: "**ZSM/CMK**" **6000**, 92.5 mm SL, Mekong River near Mukdahan (Thailand); leg: K. Jarutanin, V.1988.

Remarks. According to the introduction of his description Roberts deposited "examined material […] in the following institutions: […]; ZSM, Zoologische Staatssammlung München." Robert's intention of an institutional deposition of the paratype of *Probarbus labeaminor* in ZSM is clear from his introduction. Judging from the text of the original description, there is no indication that Roberts donated type material to the private collection Maurice Kottelat in ZSM ("ZSM/CMK"), he would surely have mentioned this. ZSM 40564 (1) is replacing "ZSM/CMK" 6000 (1), the paratype belongs to ZSM and should be returned.

Puntius asoka Kottelat & Pethiyagoda, 1989 (b)

D. Aqua. Terr. Z. (DATZ) 42 (8): 472–475, figs 1–3.

Holotype: ZSM 27188, 60.3 mm SL, Sitawaka River, approx. 500 m upriver of bridge on road from Dehiowita to Deraniyagala, Kegala District, Prov. Sabaragamuwa, 6°55'25" N / 80°20'02" E (Sri Lanka); leg: R. Pethiyagoda, 3.I.1989.

Paratypes: "ZSM/CMK" 6402 (9) and "ZSM/CMK" 6522 (1).

Remarks. Holotype was not found during type searches in 1998, 1999, 2000, and 2004. This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38480 [ex ZSM 27188] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Paratypes not intended for final deposition in ZSM; see introduction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK".

Puntius bandula Kottelat & Pethiyagoda, 1991

Freshwater Fishes of Sri Lanka: 298–303, figs 1–3.

Holotype: ZSM 27965, 34.8 mm SL, "Minimaru Coloniya, near Galapitamada, Kegale District, 7°10' N / 80°15' E (Sri Lanka); leg: R. Pethiyagoda, X.1989."

Paratypes: "ZSM/CMK" 7146 (7), "ZSM/CMK" 7145 (5).

Remarks. Holotype was not found during type searches in 1998, 1999, 2000, and 2004. This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38483 [ex ZSM 27965] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Paratypes not intended for final deposition in ZSM; see Introduction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK".

Puntius martenstyni Kottelat & Pethiyagoda, 1991

Freshwater Fishes of Sri Lanka: 303–306, figs 6–8.

Holotype: ZSM 27966, 136.0 mm SL, "Kalu River, about 2 km N of Pallegama (Laggala-Pallegama), Matale District, 7°33' N / 80°50' E (Sri Lanka); leg: R. Pethiyagoda, 7.III.1990."

Paratypes: "ZSM/CMK" 7168 (11), "ZSM/CMK" 7078 (2), "ZSM/CMK" 6539 (2).

Remarks. Holotype was not found during type searches in 1998, 1999, 2000, and 2004. This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38482 [ex ZSM 27966] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Paratypes not intended for final deposition in ZSM; see Intro-

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duction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK".

***Puntius somphongsi* Benl & Klausewitz, 1962**

Senckenb. Biol. 43 (1): 21, pl. 2.

Paratype: ZSM 19947 (1), "Me Klong river and flood plains" (Thailand); leg: Somphongs; don: Wolfgang Benl.

Remarks. Commercial aquarium import from Somphongs (Bangkok) early I.1958. Published in the original description under the informal (not official) abbreviation "SMM" 19947 (see *Chromidotilapia bosumtwensis* for further details on "SMM"). According to Rainboth (1989) a synonym of ***Dischero dontus halei*** Duncker, 1904.

***Raiamas kheeli* Stiassny, Schelly & Schliewen, 2006**

Copeia 2006 (3): 372–376, figs 3, 5–6.

Paratypes: ZSM 34134 (1), 53.9 mm SL, River Congo near Inga, small channel adjacent to main channel rapid, just below Inga intake canal, 5°27.76'S / 13°35.56'E (Democratic Republic of Congo); leg: R. C. Schelly, U. K. Schliewen, A. I. Zamba, S. Ifuta, and J. Punga, 14.VII.2005; **ZSM 34135 (1)**, 76.5 mm SL, Inkisi River, near Kilemfu, trib. to Lower Congo River, 4°56.24'S / 15°4.70'E (Democratic Republic of Congo); leg: R. C. Schelly, U. K. Schliewen, A. I. Zamba, S. Ifuta and J. Punga, 22.VII.2005.

Remarks. ZSM 34134 (1) collected with the holotype, exchanged from AMNH 236353; ZSM 34135 exchanged from AMNH 236354.

***Rasbora dorsinotata* Kottelat & Chu, 1987**

Spixiana 10 (3): 315, fig. 2.

Holotype: ZSM 26627, "Mae Nam Huey Bon, km 45 on road from Amphoe Tha Wang Pha to Amphoe Chiang Kham, Chiang Rai Prov. (Thailand)"; leg: M. Kottelat (Loc.: 19), 10.III.1985.

Remarks. Type location according to lot label of holotype: "Mae Nam Huey Lon, road from Amphoe Tha Wang Pha to Amphoe Chiang Kham, km 45 [total 112 km], Mae Nam Yom basin, Chiang Rai Prov. (Thailand)".

***Rasbora gracilis* Kottelat, 1991** (b)

Ichthyol. Explor. Freshwaters 2 (2): 179, fig. 2.

Paratypes: ZSM 26939 (12), tributary of Sungei Pahang along road from Tasek Chini to road No. 19, Pahang, "Malay Peninsula" (Malaysia); leg: J. Geck, IV.1988. **ZSM 26952 (3)**, road from Kota Tinggi to Mersing, km stone 232, Johore, "Malay Peninsula" (Malaysia); leg: J. Geck, IV.1988. **ZSM 26968 (9)**, Nataik Sedawak, about 30 km S of Sukamara, Jelai Bila basin, Kalimantan Tengah, Borneo, 2°41'S / 111°13'E (Indonesia); leg: Pater H. Stroh, VIII.1988.

Remarks. 4 paratypes exchanged to LIPI on 13.III. 2006, MZB 15184 ex ZSM 26968 (9 now 5).

***Rasbora kalbarensis* Kottelat, 1991** (b)

Ichthyol. Explor. Freshwaters 2 (2): 181–183, fig. 3.

Paratypes: "ZSM/CMK" 6717 (24), 7432 (5), 6770 (38), 6959 (6), 7023 (1).

Remarks. Type material of this species is not deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK".

***Rasbora merah* Kottelat, 1991** (b)

Ichthyol. Explor. Freshwaters 2 (2): 183, fig. 4.

Holotype: ZSM 27975, Nataik Sedawak, about 30 km S of Sukamara, Sukamara, Sungai Jelai Bila basin, Kalimanta Tengah, Borneo, 2°41'S / 111°13'E (Indonesia); leg: Pater H. Stroh, X.1987.

Paratypes: ZSM 26717 (4), same location, X.1987, ZSM 26971 (13), same location, VIII.1988.

Remarks. Holotype out of ZSM 26717; 6 paratypes exchanged from the same lot to LIPI, MZB 15183 (6) ex ZSM 26971 (13 now 7). "ZSM/CMK" 7433 (2, c&s) ex ZSM 26971; transferred without authorization from ZSM to CMK and should be returned. According to Kottelat & Vidthayanon (1993) valid as ***Boraras merah***.

***Rasbora somphongsi* Meinken, 1958**

D. Aquar. Terrar. Z. (DATZ) 11 (3): 67, 1 fig.

Paralectotype: ZSM 10155 (1), presumably from southern Menam (Thailand); don: Firma Andreas Werner, imported in early I.1958.

Remarks. This species appeared first in the DATZ magazin on 1 Mar. 1958. Meinken based it on specimens he received from commercial fishtraders (Aquarium Westhandel, Amsterdam and Heinrich Espe, Bremen) and one specimen from Firma Andreas Werner, Munich, which he received from Schindler in 1957. All specimens included in the type series were exported obviously from the same stock from the commercial fishtrader Somphongs in Bangkok. No holotype was fixed in the first description, making all specimens to simultaneous syntypes (Art. 73.2 ICZN). Meinken published the same species in more detail a second time on 1 Oct. 1958, this time selecting a "Typus" and "Typoide", which serves as valid lectotype designation with Meinken acting as

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first revisor (Art. 74.5 ICZN). Thus all "Typoide" have to be treated as paralectotypes of a former syntype series. In the second description Meinken used the obsolete museum abbreviation "SMM" for ZSM 10155. The ZSM paralectotype was previously not listed in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

***Rasbora urophthalmoides* Kottelat, 1991** (b)

Ichthyol. Explor. Freshwaters 2 (2): 188–190, fig. 10.

Holotype: ZSM 27796, 12.4 mm SL, swamp near Sai Buri R., 43 km northwest of Naratiwat on road 42, Ban La Han, Pattani Prov. (Thailand); leg: T. R. Roberts, M. Kottelat, 29.III.1985.

Paratypes: "ZSM/CMK" 4264.

Remarks. The exchange of the holotype from CMK 5127 to ZSM 27796 is published in the original description. The holotype was transferred without authorization from the ZSM collection to ZRC by M. Kottelat in 1995 (K. Lim, pers. comm. to U. Schliewen 2005) and is available as ZRC 38455. This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Paratypes were not intended for final deposition in ZSM; see Introduction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK". According to Rainboth (1996) valid as ***Boraras urophthalmoides***.

***Rasbora wilpita* Kottelat & Pethiyagoda, 1991**

Freshwater fishes of Sri Lanka: 308–312, figs 11–14.

Holotype: ZSM 27967, 72.0 mm SL, "border of Wilpita Estate and Welihena Forest reserve, Parusella, Nilwala River basin, 6°07'30" N / 80°31'15" E (Sri Lanka); leg: M. Kottelat, R. Pethiyagoda, 13.IV.1990."

Paratypes: "ZSM/CMK" 7122 (3), "ZSM/CMK" 7187 (1).

Remarks. Holotype was not found during type searches in 1998, 1999, 2000, and 2004. This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38481 [ex ZSM 27967] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Paratypes were not intended for final deposition in ZSM; see Introduction for details regarding the actual deposition of material and the use of museum abbreviation "ZSM/CMK".

***Thryssocypris ornithostoma* Kottelat, 1991** (c)

Ichthyol. Explor. Freshwaters 2 (3): 277–278, fig. 1.

Paratypes: "ZSM/CMK" 6842 (3).

Remarks. Paratypes were not intended for final deposition in ZSM; see introduction for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK".

Doradidae

***Doras punctatus* Kner, 1853**

Sitzungsber. Akad. Wiss. Wien 17: 136 [47], pl. 6 (fig. 10).

Syntype: ZSM 4820 (1), Rio Guaporé (Brazil); leg: Natterer, 1817–1835.

Remarks. No exact date available; NMW received this specimen with the 9th shipment of collected specimens from the J. Natterer Expedition, 1817–1835. Part of the Kähsbauer Donations from NMW, ex NMW 45439. (Wellendorf, pers. comm. 2001). The species name *"Oxydoras" punctatus*, Heckel 1853 as given on the ZSM lot label refers to an unpublished and unavailable museum name in the NMW inventory (Welledorf, pers. comm. 2001). Kner cites Heckel's manuscript in the introduction (Kner 1853: 1 – "Herr Heckel begnügt sich dagegen nicht bloss damit … die reichen, ihm anvertrauten Schätze zu öffnen, sondern seine Güte geht so weit, dass er selbst die von ihm in dieser Partie ausgeführten Vorarbeiten mir zur Benützung überlässt [Mister Heckel contents himself however not only to open the rich treasures entrusted to his care, but his kindness reaches that far, that he himself relinquishes the preliminary works conducted by his own party to my own usage]"). Kner (1855: 136 [47 in separatum]) refers to the same manuscript when describing *Doras punctatus* in more detail. Kner's work on the sexual distinctions within the genus *Corydoras* and the swimbladder of the genus *Doras* published in 1853 are preliminary results of his ongoing work ("Was nun die Fortsetzung meiner Untersuchungen betrifft [Concerning now the progress of my investigations …]" and "Für heute beschränke ich mich jedoch nur auf die vorläufige Mittheilung zweier Verhältnisse [For today I restrict myself though to a preliminary communication of two circumstances] (Kner 1853: 1 in separatum)) that he published two years later (Kner 1855). In this later publication, Kner refers not only to the Heckel manuscript, but he refers directly to his preliminary report and to the illustration of the swimmbladder of *Doras punctatus* (Kner 1855: 138 [49 in separatum]): "Die Schwimmblase lauft rückwärts in zwei nach vorne umgebogene Hörnchen aus und ist ohne Appendices [The swimmbladder ends

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backwards in two small horns recurved forward and is without appendices]; siehe [see] l.c. Fig. 5.". The Latin abbreviation "l.c." (loco citato) means "see already cited reference" and refers to the illustration of Fig. 5 in Kner 1853 on page 10 (see Kner 1855: 114 [25 in separatum]). This direct linkage between both publications is also evident from Kner's correction of the figure capture in *Doras brevis* (Kner 1855: 140 [51 in separatum]), where Kner refers to "l. c. Fig. 8 (im Texte fälschlich [in the text erroneous] Fig. 6)". The name *Doras punctatus* is first available from the caption to a line drawing of a disembodied gas bladder published in Kner (1853: Fig. 5 on page 10 in separatum). Kner (1855: 136–138) subsequently provided a detailed description of *Doras punctatus* based on the same 17 specimens from "Mato-grosso und Rio Guaporé", explicitly citing and referring to his already published work (Kner 1853). Valid as ***Doras punctatus*** Kner, 1853.

Embiotocidae

Ditrema temmincki var. *jordani* Franz, 1910

Abh. Akad. Wiss. München, Math.-Phys. Kl. 4, Suppl. 1: 51, pl. 5, fig. 29.

Syntypes: ZSM [Old Collection] (17), "Yokohama, coll. Haberer; Aburatsubo und [and] Misaki, coll. Doflein"; no date. **ZSM 30574 (1)**, pregnant female, "Sagamibucht Japan" [Sagami Bay (Japan)]; leg: Doflein, Rockinger, Coll. Doflein, 1904. **ZSM 271 (1)**, pregnant female, "Bei Misaki" [near Misaki]; leg: local fisherman; Coll. Doflein, 1904.

Remarks. Originally described from 19 syntypes, most of which were apparently destroyed in World War II (ZSM [Old Collection], no numbers). However, during a type search in July 2005 (D. Neumann), two lots labelled as "*Ditrema temmincki*" were discovered in the ZSM collection and are here re-identified as syntypes: ZSM 271, a pregnant female assembled to a glas plane for display purposes; the lot was apparently part of the public collection of the former Natural Cabinet stored in the Wilhelminum that survived the second World War. The specimen in ZSM 30574 (1) is assembled in the same way and was formerly part of the ZPLMU collection; ZSM 30574 (1) ex ZPLMU 1757 (1). Both lots were not marked as containing type material. From the 19 specimens published by Franz, pregnant females are reported only from Misaki. In the original description of his new variety he states that the nominal species *Ditrema temmincki* occurs syntopically. While Franz accurately referred to any single available fish from the Haberer and Doflein collections (including even unsure determinations, e. g. Serranidae spec. indet.), he did not mention any specimen of the nominal species *Ditrema timmincki*. This suggests that Franz assigned all specimens available to him from the two collections to his new variety. Since the Misaki origin of the pregnant females as published agrees with the collection data of the re-discovered lots and because Franz did not refer to any other Embiotocid species or variety from the Haberer and Doflein collections, the lots ZSM 257 (1) and ZSM 30574 (1) are treated as syntypes of *Ditrema jordani*. In both specimens the dorsal fin ends well in front of the posterior end of the anal fin, one of the diagnostic characters for *Ditrema jordani* in the key of Katafuchi & Nakabo (2007). Original material seen by Franz was not compared by Katafuchi & Nakabo (2007). The neotype designation of FAKU 88266 is set aside (Art. 75.8 ICZN) for the original (re-discovered) syntypes ZSM 30574 (1) and ZSM 271 (1).

Etmopteridae

Etmopterus viator Straube, Duhamel, Gasco, Kriwet & Schliewen, 2011

The Kerguelen Plateau: marine ecosystem and fisheries: 143–146, figs 2–3, 5.

Paratype: ZSM 38530 (1), male, 362 mm TL, Indian Ocean, Kerguelen Plateau NW of French Southern & Antartic Islands, depth: 834–1052 m, 47°15'36" S / 71°49'26" E; X.2006.

Remarks. ZSM 38530 (1) ex MNHN 2008-1898. Genbank accession number: HM998645. Specimen caught during commercial long-line fishing.

Gobiidae

Caecogobius cryptophthalmus Berti & Ercolini, 1991

Trop. Zool. 4 (1): 130, figs 1–5.

Paratype: ZSM 27189 (1), "Calbiga Cave system, Samar island, 12°00' N / 125°00' E (Philippines)"; leg: "Samar 87" Expedition, 1.II.1987.

Remarks. Collection site of paratype according to lot label: Luzon cave, Calbiga karst, Samar I. (Philippines). The paratype was received as exchange from the Museum in Verona, the original pencil entry "PARATYP (Tausch Museum Verona)" in the ZSM inventory was erased and replaced with "long term loan from CMK 7249". The paratype should be returned to ZSM.

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Fig. 2. Rediscovered syntypes of *Ditrema timmincki*, top ZSM 271 (1), bottom ZSM 30574 (1).

***Didogobius amicuscaridis* Schliewen & Kovačič, 2008**

Spixiana 31 (2): 249–254, figs 1a, 1c, 2, 3b.

Holotype: ZSM 34186, male, 31.5 mm SL, Atlantic Ocean, São Tomé Island at Diogo Vaz, 24 m depth, over sand mixed with coral rubble, 0°19'N / 06°29'E (São Tomé and Príncipe); leg: E. Ferreira, 14.II.2006.

***Didogobius schlieweni* Miller, 1993**

J. Nat. Hist. 26 (6): 1413, figs 1–3.

Holotype (unique): ZSM 27980, Unije I., near Cres I. (Croatia); leg: U. Schliewen, 26.VI.1991.

Remarks. Based on a single specimen.

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Didogobius wirtzi **Schliewen & Kovačič, 2008**

Spixiana 31 (2): 254–257, figs 1b, 1d, 2, 3a.

Holotype: ZSM 36566, male, 26.6 mm SL, Atlantic Ocean, Cape Verde Islands, Island of Santiago, Bay of Tarrafal, in 16 m depth over sand mixed with coral rubble, 15°17.14' N / 23°45.5' W (Cape Verde); leg: P. Wirtz, 22.VIII.2007.

Remarks. Paratype SMNS 26370 ex ZSM 36566 (2 now 1), collected with the holotype. Species is erroneously referred to on fig. 3a in original description, but is apparently depicted in fig. 3b.

Mugilogobius adeia **Larson & Kottelat, 1992**

Ichthyol. Explor. Freshwaters 3 (3): 227–232, figs 2–6.

Paratypes: "ZSM/CMK" 6468 (4), 6513 (4), 9063 (4).

Remarks. No type material of this species is deposited in ZSM. See original description and introduction for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK".

Schismatogobius deraniyagalai **Kottelat & Pethiyagoda, 1989** (a)

Spixiana 12 (3): 316–319, fig. 1.

Holotype: ZSM 27362, male, 30.8 mm SL, We Oya, hill stream at Parusella Estate, near Siyambalagastenna hamlet, about 3 km from Yatiyantota town on the road from Yatiyantota to Punugala, Prov. Sabaragamuwa, 7°01'55" N / 80°18'50" E (Sri Lanka); leg: R. Pethiyagoda, 27.IX.1988.

Paratypes: "ZSM/CMK" 6400 (3), "ZSM/CMK" 6524 (2).

Remarks. The holotype is missing at ZSM, not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999–2005 (D. Neumann). This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38460 [ex ZSM 27362] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". In a later description again, Pethiyagoda (1991) distinguished explicitly between ZSM and ZSM/CMK collections. No paratypes are deposited in ZSM; see Introduction for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK".

Hemiodontidae

Parodon guyanensis **Géry, 1959** (b)

Bull. Mus. Natl. Hist. Nat. (Sér. 2), 31 (6): 481, figs 1–2.

Paratype: ZSM 17797 (1), "upper Mana, crique Deux – Branches à la hauteur de Saut – Fini (French Guiana); leg: Lelong, 25.X.1957."

Remarks. Published as ZSM (uncat.) in the original description and listed without ZSM number in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Hemiramphidae

Dermogenys bispina **Meisner & Collette, 1998**

Raffles Bull. Zool. 46 (2): 375–377, figs 1–3.

Paratypes: ZSM 27540 (4), road from Kota Kinabalu to Sandakan, larger stream between Telupid and 42 km before intersection with road to Beluran, Sabah, Borneo (Malaysia); leg: Kettner, Krummenacher and Witte, 11. III.1988. **ZSM 27562 (7)**, outskirts of Sandakan, Sabah, Borneo (Malaysia); leg: Kettner, Krummenacher and Witte, 13.III.1988.

Remarks. Material from private collection Kai Erik Witte; ZSM 27540 (4) ex KEWI 307; ZSM 27562 (7) ex KEWI 264.

Dermogenys collettei **Meisner, 2001**

Zool. J. Linn. Soc. 133 (2): 238, figs 37–38

Paratypes: ZSM 26957 (2), South of Kota Tinggi, on road to Johor Baru, Borneo (Malaysia); leg: J. Geck, IV.1988.

Hemirhamphodon kapuasensis **Collette, in Anderson & Collette, 1991**

Ichthyol. Explor. Freshwaters 2 (2): 166–171, fig. 7.

Holotype: ZSM 27958, male, 48.5 mm SL, Insiluk, 16 km west northwest of Sanggau on road to Pontianak, Kalimantan Barat, Borneo (Indonesia); leg: M. Kottelat, U. Schliewen, Joe Him, Freddy Liem and Ivan, 23.IV.1990.

Paratypes: "ZSM/CMK" 6727 (7), 6737 (11), 6768 (2).

Remarks. The holotype is missing at ZSM, not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999–2005 (D. Neumann). This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38461 [ex ZSM 27958] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM

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and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". No paratypes are deposited in ZSM; see Introduction for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK".

Hemirhamphodon tengah Collette in Anderson & Collette, 1991

Ichthyol. Explor. Freshwaters 2 (2): 171–172, fig. 9.

Holotype: ZSM 27902, Planduk, a forest creek at Palungan, a village on Sungei Sarano, near Sungei Sampit [= S. Mentaya], 75 km NW of Sampit, Kalimantan Tengah, Borneo (Indonesia); leg: H. Linke (Loc.: 1990:7), VII.1990.

Paratypes: ZSM 26007 (1), Palangan, Sungei Mentaya basin, Kalimantan Tengah, Borneo (Indonesia); leg: A. Hanrieder, VI.1979. **ZSM 26720 (4)**, Nataik Sedawak, about 30 km S of Sukamara, Jelai Bila basin, Kalimantan Tengah, Borneo, 2°41'S / 111°13'E (Indonesia); leg: Pater H. Stroh (No. 14–17), VIII.1988. **27888 (1),** Creeks along road from Banjarmasin, 40 km N to 40 km S, Kalimantan Selatan, Borneo (Indonesia); leg: H. Linke (Loc.:1990-3-5), VII.1990. **ZSM 27766 (6)**, streams 11, 29 and 35 km NW of Palangkaraya on road to Kasungan, Kalimantan Tengah, Borneo (Indonesia); leg: H. Linke (KA 88 / 3-5), 1988. **ZSM 27905 (10)**, creeks in Pudukuali [6 km NE of Sukamara], 2 km N of Sukamara and Tarantang [6 km S of Sukamara], Kalimantan Tengah, Borneo (Indonesia); leg: H. Linke (Loc.:1990 8–10), VII.1990. **ZSM 27924 (5)**, creek 5 km S of Pankalanbun Raja on road to Kumai, Kalimantan Tengah, Borneo (Indonesia); leg: H. Linke (Loc.:1990:11), VII.1990.

Remarks. Exchanged from ZSM 27924: 4 specimens to USNM, USNM 317896 (4) ex ZSM 27924 (9 now 5). Exchanged from ZSM 27905: 7 specimens to USNM, USNM 317897 (7) ex ZSM 27905; 5 specimens to LIPI 13.III.2006, MZB 15185 ex ZSM 27905 (17 now 5). ZSM 27888 (1) is apparently missing and should be returned; not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999–2005 (D. Neumann).

Heptapteridae

Pimelodella yuncensis Steindachner, 1902

Denkschr. Akad. Wiss. Wien 72: 47 [in separatum].

Syntype: ZSM 7870 (1), Pacasmayo, northern (Peru); "Pacasmayo … bachartige[s] Wasser, welches ein Canal des Rio Jequetepeque sein könnte" [Pacasmayo … creeklike water, which could be a canal of Rio Jequetepeque]; leg: Prinzessin Therese von Bayern, 10 or 11.XI.1898.

Remarks: Princess Therese von Bayern originally collected two specimens, which are the syntypes of *Pimelodella yuncensis*; both specimens were originally part of the zoological bequests ZSM received after her death in 1925. The ZSM syntype survived World War II, but all data except the village name "Pacasmayo" is lost. Schindler referred to this lot as "Alte Sammlung" [Old Collection] (see historical review for details). The additional data on the type locality are cited from the preface of Prinzessin Therese von Bayern (1902). Steindachner described this species based on two specimens, one 4.4, the other 4.8 cm long, without indicating a name-bearing type ("*Pimelodella yuncensis*, n. sp., 2 Exemplare aus einem Bache in Pacasmayo, Nordperu, 4,4 und 4,8 cm lang."), making both of them to simultaneous syntypes (Art. 73.2 ICZN). The designation of a holotype by Bockmann & Guazzelli (in Reis et al. 2003) is rejected (Recommendation 73F ICZN). Steindachner obviously retained the smaller specimen in NMW; the ZSM specimen originally was the larger of the two syntypes (now 44.60 mm TL), however dried out earlier, possibly because of inadequate storage during the post-war confusion 1945–1949. The NMW syntype was not found yet (Wellendorf, pers. comm. Oct. 2005). Two specimens catalogued as *"Pimelodus"*, NMW 45949 (45 mm SL, 56.3 mm TL and 53.7 mm SL, 66.4 mm TL) from "Pacasmayo, Peru, 1883" are indeed heptapterids (not pimelodids), but neither is considered a type of *Pimelodella yuncensis* because of their larger size (Sabaj Pérez, pers. comm. Apr. 2011). NMW (uncat.?) (1) and ZSM 7870 (1) ex ZSM [Old Collection] (2). ZSM syntype previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Lebiasinidae

Pyrrhulina macrolepis Ahl & Schindler, 1937

Anz. Akad. Wiss. Wien 74 (16): 140.

Holotype (unique): ZSM 5866, 41.5 cm TL, 35.2 cm SL, San Jose, Pilcomayo, Gob. Formosa (Argentina); leg: H. Krieg, X.1925.

Remarks. Based on a single specimen, holotype fixed by monotypy (ICZN Art. 73.1.2). Caudal fin damaged; the specimen was collected during the "II German Gran Chaco – Expedition". The holotype of *Pyrrhulina macrolepis* was previously considered to be lost in ZMB. However, it was originally deposited in ZSM by Schindler, who worked on the fishes collected by Krieg in the course of the Gran-Chaco Expedition. According to Zarske & Géry (2004) a synonym of ***Pyrrhulina australis*** Eigenmann & Kennedy, 1903. Previously not mentioned in the

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Fig. 3. Rediscovered syntypes of *Leptocephalus lacrymatus*, ZSM 247–248.

Eschmeyer Catalogue (updated online version, 25 Oct. 2010).

Leptocephalus-larvae, incerta sedis

Leptocephalus lacrymatus Franz, 1910

Abh. Akad. Wiss. München, Math.-Phys. Kl. 4, Suppl. 1: 17, 104–106, pl. 3, fig. 3, pl. 10, figs 5–6.

Syntypes: ZSM [Old Collection] (19), "von Fukuura, Sagamibai, coll. Haberer" [from Fukuura, Sagami Bay (Japan); coll. Haberer]; no date. **ZSM [Old Collection] (51)**, "Sagamibai, coll. Doflein (z.T. durch Fischer Kuma, durch Tsuchida)" [Sagami Bay (Japan); leg: (partim): fishermen Kuma and Tsuchida, coll. Doflein]; no date. ZSM 247–248 (2), 98.62 and 116.77 mm SL, "Bei Misaki" (Japan); leg (?):"K.[uma?], Japan Exped. Dr. Doflein Nro. 2082, 1904-5".

Remarks. Most specimens of the syntype series of *Leptocephalus lacrymatus* were apparently destroyed in World War II; not found during a type search in July 2005 (D. Neumann). At least one of the syntypes was partly dissected by Franz for a semisection series of the eye in the vertical and equatorial plane which were detailed in an anatomical description of the eye of *Leptocephalus lacrymatus* on pages 104–106. The semisections originate from one of the syntypes and are part of the syntype series. Both, the voucher specimen as well as the semisections are apparently lost, they were not detectable in the ZPLMU collection (Melzer, pers. comm. 2006). ZSM 247–248 was rediscovered during a type search in 2005 (D. Neumann). Doflein's original labels included in the lot identify these specimens "*L. lacrymatus*, F.": one handwritten label reads "Leptocephalus lacrymatus F. Sagamibai Doflein", a second printed one reads "Bei Misaki, K., Japan Exped. Dr. Doflein Nro. 2082, 1904-5". The myomere counts (141 for the smaller, 142 for the bigger specimen) agree with the original description, in the smaller specimen a faint dark pigmentation is recognizable at the lower rim of the pupil. Franz did not mention any other *Leptoceophalus* larvae from the Doflein collection. However, the name on the lot label was erroneously changed later on (probably by Schindler) to *"Leptocephalus brevirostris"*, the collector is given with "Kaup", perhaps inspired by the letter "K." on the original label. ZSM 247–248 previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Loricariidae

Acanthicus adonis Isbrücker & Nijssen, 1988

D. Aquar. Terrar. Z. (DATZ) 41 (6): 166–167, figs 5–7.

Paratypes: ZSM **26730 (2)**, Rio Tocantins at Cametá, Pará, "0°14' S / 49°30.5' W" (Brazil); leg: local fishermen; don: A. Werner, X–XI.1987.

Remarks. Commercial aquarium import, received 17.II.1988.

Ancistrus pirareta Muller, 1989

Rev. Suisse Zool. 96 (4): 891–894, fig. 2.

Paratypes: ZSM 27592 (2), Salto Pirareta, S of Piribebuy, tributary of Rio Tebicuary-mi, Cordillera, 25°30' S / 56° 55' W (Paraguay); leg: F. Baud, C. Dlouhy and V. Mahnert, 21–23.III.1985.

Ancistrus piriformis Muller, 1989

Rev. Suisse Zool. 96 (4): 887–891, fig. 1.

Paratypes: ZSM 27593 (2), Río Acaray, "above the

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lake behind the dam", Alto Paraná, 25°23'S / 54°42'W (Paraguay); leg: C. Dlouhy, 15.V.1982.

Remarks. Collection site of paratypes on ZSM label "Rio Acaray, below dam"; previously cited without ZSM No. in the Eschmeyer Catalogue (online version, updated 29 Mar. 2011).

Ancistrus ranunculus Muller, Rapp Py-Daniel & Zuanon, 1994

Ichthyol. Explor. Freshwaters 5(4): 290–293, fig. 1.

Paratypes: ZSM 27116 (1), female, Rio Tocantins, Pará; don: A. Werner, XI.1988; **ZSM 27199 (1)**, juvenile, Rio Araguaia immediately above confluence with Tocantins, Pará; don: A. Werner, 1989; **ZSM 27309 (1)**, male, Rio Tocantins at Maraba, Pará; don: A. Werner, 7.VII.1989; **ZSM 27782 (3)**, Rio Xingú, near Altamira, Pará, (Brazil); don: A. Werner, X.–XII.1989.

Remarks. ZSM 27782, 1 female, 94.8 mm SL exchanged to MHNG 2644.42 (1), ZSM 27782 (4 now 3); ZSM 27309, 1 female, 83.8 mm SL exchanged to MHNG 2550.99 (1) ZSM 27309 (2 now 1).

Ancistrus vittatus var. *vermiculata* Steindachner, 1908

Anz. Akad. Wiss. Wien 45(11): 165–166.

Potential syntype: ZSM 4860 (1), 77.87 mm TL, "Pará" [probably Belém do Pará] (Brazil); leg: Steindachner (?), 1903.

Remarks. Part of the Kähsbauer Donations; specimen ZSM 4860 was collected during Steindachner's Brasilien Expedition 1903, field code "Loc.69d". According to NMW files the specimen unambiguously originates from lot NMW 48057 (2 now 1). Ahnelt referred to this specimen as "Syn-Typus" [syntype] (Ahnelt; written com). However, during a visit to NMW it was not possible to verify the type status (Wellendorf, pers. comm. 2001) of this specimen in the NMW inventory. Even though it is likely that the ZSM specimen is part of the original syntype series, NMW 48057 is not mentioned as part of the type series in NMW, and the TL of the specimen is shorter than the range given by Steindachner in the original description (8–14 cm); the type status of ZSM 4860 remains doubtful. According to Fisch-Muller in Reis et al. (2003) valid as ***Peckoltia vermiculata*** (Steindachner, 1908).

Brochiloricaria chauliodon Isbrücker, 1979

Rev. Fr. Aquariol. 5(4), 1978: 90, 102, figs 15–17.

Holotype: ZSM 23342, Isla El Dorado, Paraná Guazú, Prov. Entre Rios, (Argentina); leg: R. Foerster, 2.IV. 1967.

Remarks. Isbrücker questioned the information on the type locality as imprecise ("localité non précisée") in the original description. The Rio Paraná Guazú is a branch of the mouth of Rio Paraná, which divides the provinces Buenos Aires and Entre Rios. Isla El Dorado is apparently one of the numerous islands in the Paraná delta N of Zárate, which is in close vicinity to Villa Ballester, now a suburb of Greater Buenos Aires, from where the natural history dealer Reinhard Foerster operated. The Isla El Dorado seems to be a popular fishing spot for *Salminus maximus* (Dorado). The type locality is precised as: Rio Paraná Guazú at Isla El Dorado, 60 km northwest of Villa Ballester, Province Entre Rios, Argentina.

Cochliodon pospisili Schultz, 1944

Proc. U.S. Natl. Mus. 94 (3172): 312, pl. 11 (figs c–d).

Paratypes: ZSM 20090–91 (2), Rio Motatan, at bridge 22 km N of Motatan, Maracaibo basin (Venezuela); leg: L. P. Schultz, 17.III.1942.

Remarks. ZSM 20090–91 (2) ex USNM 121007 (46 now 33), cited in the Eschmeyer Catalogue as "Schindler coll." (updated online version, 29 Mar. 2011).

Exastilithoxus hoedemani Isbrücker & Nijssen, 1985

Spixiana 8(3): 227, figs 3–4.

Paratype: 26070 (1), Rio Marauiá, Cachoeira "Pora Comeschie", near foot of Sierra Neblina, Amazonas (Brazil); leg: E. J. Fittkau, 28.I.1963.

Remarks. Additional note on the type locality: Close above "Endstation"; habitat: benthos besides main current. "Pora Comeschie" is a phonetic spelling and probably not correct orthographically. Specimen was collected N of former mission at Rio Marauiá; "Endstation" refers to the last collecting site of Fittkau's Rio Negro Expedition, from which he returned to Manaus (Fittkau, pers. comm., Oct. 2005).

Plecostomus affinis Steindachner, 1877

Sitzungsber. Akad. Wiss. Wien 74 (1. Abth.): 685 [127–130 as separate].

Paralectotype: ZSM 4843 (1), "Campos, Parahyba" (Brazil); [leg: Hartt and Copeland, Thayer Expedition], "1874".

Remarks. According to Schindler's list of exchanged NMW specimens, ZSM 4843 ex NMW 44041 (7 now 6) (confirmed, Wellendorf, pers. comm. 2001). The location "Campos, Parahyba" on the original label likely refers to Loc. Thayer018: Rio Muria at Campos, 3 miles from town, 1865 (Higuchi 1992 [1996, updated online version]); "1874" on the original label refers to the acquisition date at NMW, not to the actual collection date (Wellendorf, pers. comm. 2001). Lec-

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totype designated by Mazzoni et al. (1994), valid as ***Hypostomus affinis*** (Steindachner, 1877).

Lasiancistrus brevispinis Heitmans, Nijssen & Isbrücker, 1983

Bijdr. Dierkd. 53 (1): 38, figs 4–7.

Paratypes: ZSM 26348 (2), "Stondansie Fall in Nickerie River, width 80 m, bottom of sand and rocks", Nickerie (Suriname); leg: H. Nijssen, "5.IV.1967".

Remarks. ZSM 26348 (2) ex ZMA 106477. Detailed information on the collecting site and the exact date quoted from original description. According to Armbruster (2004) valid as ***Pseudancistrus brevispinis*** (Heitmans, Nijssen & Isbrücker, 1983).

Leporacanthicus galaxias Isbrücker & Nijssen, 1989

D. Aquar. Terrar. Z. (DATZ) 42 (9): 546, figs 8–10, 13–15.

Paratypes: ZSM 26672 (1), Rio de Ourem at Ourem, "1°33'S / 47°06'W, deep river with strong current", Pará (Brazil), leg: A. Werner, IX.1987. **ZSM 26735 (9)**, same location, X/XI.1987.

Loricaria fallax Steindachner, 1915

Denkschr. Akad. Wiss. Wien (93): 101 [87 in separate], pl. 13, figs 1–4.

Paralectotype: ZSM 4869 (1), upper Rio Branco near Boa Vista, Est. Roraima, 2°51'N / 66°43'W (Brazil); leg: J. D. Haseman, 1912/1913.

Remarks. Part of the Kähsbauer Donations; ZSM 4869 (1) ex NMW 44867 (3 now 2), NMW inventory gives collecting date with 31.VII.1913 (Wellendorf, pers. comm. 2001). According to Ferraris (in Reis et al. 2003: 342) valid as ***Rineloricaria fallax*** (Steindachner, 1915).

Loricaria jaraguensis Steindachner, 1909

Anz. Akad. Wiss. Wien 46 (12): 196–197.

Potential paralectotypes: ZSM 4848 (1), female, "Joinville" (Brazil); 1908. **ZSM 4849 (1)**, male, same data.

Remarks. Part of the Kähsbauer Donations; ZSM 4848 (1) ex NMW 44906, ZSM 4849 ex NMW 44912, origin congruent with NMW inventory files (Wellendorf, pers. comm. 2001). However, it was not possible to validate the type status of the NMW lots and ZSM specimens. Steindachner collected both lots, NMW 44906 and NMW 44912, but neither of the two NMW lots is marked as containing type material. The species is described from the "Jaraguá und dessen Nebenflüssen im brasilianischen Staate Sa. Catharina" [Jaraguá and its tributaries in the Brazilian State Sa. Catharina]. The area south of Joinville drains together with the Rio Jaraguá into the Rio Corupá; Jaragua do Sul at the confluence of the two rivers is the direct neighbouring town southwest of Joinville (Reis, pers. comm. 2005). The type locality lies in the vicinity of Joinville, and according to Steindachner the type material originates not only from the Rio Jaraguá, but also from its tributaries in the Santa Catharina State. The catchment area of Rio Jaraguá is confined to a small mountainous area southwest of Jaragua do Sul, and the river contributes to the Corupá drainage, not vice versa, as denoted by Steindachner in the original description. Because of the vicinity of Joinville and the Rio Jaraguá, and because Steindachner explicitly mentions that he included additional material from the tributaries of the Jaraguá drainage, ZSM 4848 (1) and ZSM 4849 (1) are treated as potential paralectotypes. A lectotype, NMW 44886, was designated by Isbrücker (1979); valid as ***Rineloricaria jaraguensis*** (Ferraris, in Reis et al. 2003).

Loricaria rostrata Spix & Agassiz, 1829

Selecta genera et species piscium quos in itinere per Brasiliam […]: 5–6, pl. 3, figs 1–2.

Syntype: ZSM 30588 (1), "Brasilien [Brazil], [leg:] Spix", no date.

Remarks. The syntype, ZSM 30588 (1) ex ZPLMU 1753 (1), was rediscovered during a type search in the ZPLMU collection in 2004 (see introduction for details). In a publication on a collection of fishes Steindachner received from the Upper Rio Branco, he refers to the type material of *Loricaria rostrata*, emphasising the damages of the caudal of the types in the Spix Collection (Steindachner, 1897a: "… bei den übrigen Exemplaren des Wiener Museums aus dem Rio Branco, sowie bei den typischen Exemplaren der Spix'schen Sammlung ist die Caudale stark beschädigt [in all other specimens of the Museum in Vienna from the Rio Branco, as well as in the typic specimens from the Spix Collection, the caudal is strongly damaged]", …. page 165 [17 in separatum]). The tail of the specimen retained as ZSM 30588 is conspicuously damaged, bending the tail towards the right. The overall appearance of the rediscovered specimen agrees with the specimen depicted on plate 3 in the Fishes of Brazil, especially the bending and damage of the tail (even though the damage itself seems retouched in the illustration). It is very likely that this specimen was used for the illustration in the original publication of Spix & Agassiz. Moreover, Steindachner's citation further reveals that a) type material of *Loricara rostrata* was available in Munich after Agassiz left Munich in 1830, and translocated part of the Spix Collection to Conchise to finish the plates of volume two of

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Fig. 4. Rediscovered Spix syntype of *Sturisoma rostratus* ZSM 30588 (1) in dorsal, ventral and lateral view (excluding tail), below as originally depicted on plate III in Spix & Agassiz (1829).

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specimens (Kottelat 1988), and b) that at least two type specimens of *Loricaria rostrata* were available in Munich, since as Steindachner refers to the type specimens in the plural. Judging from this citation, the species is apparently based on a syntype series rather than on a single (unique) holotype as previously assumed by Eschmeyer (updated online version, 29 Mar. 2011). Valid as ***Sturisoma rostrata*** (Ferraris, in Reis et al. 2003).

***Loricaria spixii* Steindachner, 1881** (a)

Sitzungsber. Akad. Wiss. Wien 83: 97.

Paralectotype: ZSM 26790 (1), Rio Quenda at Santa Cruz (Brazil); leg: (?) Steindachner, 2.I.1875.

Remarks. One of the original syntypes and part of the Kähsbauer Donations exchanged in 1952 from NMW (Wellendorf, pers. comm. Oct. 2005); original label of Coll. Musei Vindobonensis still available in the ZSM lot. Schindler inventoried this lot presumably as ZSM 4970, but did not label the lot accordingly; his handwritten ZSM label includes no ZSM number. The specimen was re-inventoried later by Terofal as ZSM 26790; this number is retained for the paralectotype of *Loricariichthys spixii*; ZSM 26790 (1) ex NMW 45120 (3 now 1). Steindacher as collector is doubtful, the date refers to the acquisition at NMW and is not the actual collecting date; the data suggests that the specimen originates from the Hassler Expedition (Wellendorf, pers. comm. 2001). "Rio Quenda" is included on Higuchi's (1992 [1996, updated online version]) station list of the Thayer Expedition (Thayer156); this would suggest D. Bourget as collector in 1865; Higuchi gives the "Rio Grande (Arroio Fundo), within urban area of Rio de Janeiro as current locality" [22°56'S / 43°12'W]. The species description likely appeared first in the "Sitzungsberichte" (Steindachner 1881a) rather than in the "Anzeiger" (Steindachner 1881b). Below the heading in Steindachner 1881a it reads as follows: "vorgelegt in der Sitzung […] am 5. Mai 1881" [presented in the conference […] on 5. May 1881]. The physical availability of the article is confirmed in the "Anzeiger" (Steindachner 1881b): "Herr Director Dr. Steindachner übersendet zwei Ichthyologische Abhandlungen […] In der ersteren, für die Denkschriften der kais. Akademie [Steindachner 1881c] bestimmten Abhandlung gibt der Verfasser die Beschreibung folgender Arten [Mr. Director Dr. Steindachner conveys two ichthyological treatises […] In the first, for the 'Denkschriften der kais. Akademie' [Steindachner 1881c] determined treatise, the author gives the descriptions of following species]". The latter citation indicates that the already printed articles were sent for the meeting, which Steindachner himself did not attend. Lectotype designated by Isbrücker (1979); according to Reis & Pereira (2000) in synonymy with ***Loricariichthys castaneus*** (Castelnau, 1855).

***Loricaria teffeana* Steindachner, 1879** (a)

Denkschr. Akad. Wiss. Wien (41): 44–45, pl. 6, figs 2a–b.

Paralectotype: ZSM 4868 (1), Teffé (Brazil); don: Steindachner, 1874.

Remarks. Part of the Kähsbauer Donations exchanged from NMW in 1952. Schindler erroneously referred the *L. teffeana* specimen to lot NMW 45120 on his list of exchanged NMW specimens, which is evident also from the discordant collection sites: the label of ZSM 4868 reads "Teffe", but NMW 45120 originates from Rio Quenda at Santa Cruz (Wellendorf, pers. comm. 2001). NMW 45120 includes syntypes of "*Loricaria*" *spixii*, from which the paralectotype ZSM 26790 was exchanged. ZSM 4868 most likely originates out of NMW 45134 (4 now 3) or 45135 (2 now 1): From both lots one specimen is apparently missing; one of them is retained in ZSM (Wellendorf, pers. comm. Oct. 2005). The year 1874 refers to the acquisition year at NMW and not to the year of collection, "don: Steindachner" refers to the donation of Steindachner's Collection to NMW. The location "Teffé" on the original label also agrees with [Thayer138] from Higuchi's list (1992 [1996, updated online version]) of stations from the Thayer Expedition: Rio Solimões at Teffé, and environs [03°24'S / 64°45'W]; leg: Agassiz et al., IX–X.1865. The species description likely appeared first in the "Denkschriften" (Steindachner 1879a) rather than in the "Anzeiger" (Steindachner 1879b). Below the heading in Steindachner 1879b it reads as follows: "… Dr. Franz Steindachner übersendet eine Abhandlung unter dem Titel [Dr. Franz Steindachner conveys a treatise with the title]: 'Über einige neue und seltene Fische aus den zoologischen Museen zu Wien, Stuttgart und Warschau'". The physical availability of the already printed article is confirmed below the heading of the article published in the "Denkschriften" (Steindachner 1881a): "(vorgelegt in der Sitzung … am 6. Februar 1879) [presented in the conference … on 6. February 1879]". The latter citation indicates that the already printed articles were sent for the meeting, which Steindachner himself did not attend. A lectotype, NMW 45134, was designated by Isbrücker (1979); valid as ***Rineloricaria teffeana*** (Steindachner, 1879) (Ferraris, in Reis et al. 2003: 344).

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Loricariichthys platymetopon Isbrücker & Nijssen, 1979

Bijdr. Dierkd. 48 (2): 203–207, figs 7–8.

Paratype: ZSM 4830 (1), Asunción (Paraguay); don: Steindachner, collected 1909.

Remarks. Part of the Kähsbauer Donations, ZSM 4830 (1) ex NMW 46832. Collector unknown; "don: Steindachner" refers to Steindachner's donation the specimens to NMW.

Hemipsilichthys calmoni Steindachner, 1907 (b)

Sitzungsber. Akad. Wiss. Wien 116: 475–481 [1–7 in separatum].

Lectotype: ZSM 4837, Theresopolis "Cubatao, alt. 800–1000 m", former colony Theresopolis, Santa Catherina (Brazil); leg: Julius Michaelis, IX–X.1903.

Remarks. ZSM 4837 ex NMW 46467 (2 now 1); part of the Kähsbauer Donations to Schindler in 1952. Specimen collected during Steindachner's "Brasilien Expedition" 1903; "coll." refers apparently to the "Collection Steindachner" that Steindachner donated to NMW. Julius Michaelis is the actual collector of this specimen (Steindachner 1907b). Lectotype designated by Pereira & Reis (2002). Previous authors (e.g. Ferraris 2007: 279) have considered the name *Psilichthys cameroni*, as published in 1907 in a short abstract in the "Anzeiger" (Steindachner 1907a), to predate the name *Hemipsilichthys cameroni* as published the same year in the "Sitzungsberichte" (Steindachner 1907b). This is doubtful. The abstract is of a meeting held on 28 Feb. 1907, where Steindachner (1907a) presented his already finished work on *Hemipsilichthys cameroni*, which was published one day later on 1 Mar. 1907 in the "Sitzungsberichten" (Steindachner 1907b). It is extremely unlikely that lettering, setting and printing of the publication in the "Anzeiger" was done in the same night as the meeting (28 Feb. 1907), prior to the publication of the "Sitzungsberichte" on 1 Mar. 1907. The abstract in the "Anzeiger" was published later than the full article in the "Sitzungsberichte", thus the name *Hemipsilichthys cameroni* Steindachner, 1907 (b) predates *Psilichthys cameroni* Steindachner, 1907 (a). This distinction is important. In the "Sitzungsberichte", Steindachner (1907b) indicates that his new species is named in honour of "Dr. Miguel Calmon du Pin e Almeida". Pereira & Reis (2002: 100) already pointed out that the species name *cameroni* should be changed to *calmoni*, but for a change of the original spelling the Code requires an explicit intention or statement that shows that the original name is erroneous and needs to be corrected (Art. 33.2.1 ICZN). The "Anzeiger" publication (Steindachner, 1907a) contains no indication that would allow for such a correction, therefore the argumentation of Pereira & Reis (2002) that *calmoni* be favoured is not covered by the Code and can not be followed. However, due to the high probability that *Hemipsilichthys cameroni* is first available from the publication in the "Sitzungsberichte" (Steindachner 1907b), in which Steindachner (in lit.) explicitly expresses his clear intention to name the species in honour of Miguel Calmon, the name *cameroni* is changed in *calmoni* as a justified emendation from Steindachner (1907b) (ICZN Art. 33.2.1). According to Pereira (2005) valid as ***Pareiorhaphis calmoni*** Steindachner, 1907 (b).

Hisonotus candombe Casciotta, Azpelicueta, Almirón & Litz, 2006

Spixiana 29 (2): 147–150, figs 1–3.

Paratypes: ZSM 32062 (3), 23.4–27.4 mm SL, Arroyo Palomas, Río Uruguay basin, Dep. Salto, 31°04.71'S / 57°37.44'W (Uruguay); leg: P. Laurino, T. Litz, E. Perujo, F. I. Prieto, H. Salvia, 17.III.2003.

Remarks. ZSM 32062 (3) ex CTL 0539. GPS data for ZSM 32062 in original publication erroneous, correct sampling location as given above (T. Litz, pers. comm. Dec. 2010). The reference to ZSM 33062 in the Eschmeyer Catalogue (updated online version 29 Mar. 2011) is erroneous and needs to be corrected.

Hisonotus hungy Azpelicueta, Almirón, Casciotta & Koerber, 2007

Rev. Suisse 114 (3): 592–596, figs 1–2.

Paratypes: ZSM 33313 (2), 33.3–36.7 mm SL, Arroyo Tirica, affluent of Arroyo Urugua-í, Rio Paraná basin Province Misiones, 26°01'S / 55°22'W (Argentina); leg: S. Körber, R. Filiberto and J. O. Fernández Santos, 5.I. 2001.

Hypancistrus zebra Isbrücker & Nijssen, 1991

Ichthyol. Explor. Freshwaters 1 (4): 348–349, figs 1–2.

Paratypes: ZSM 27328 (1), "anastomoses of Rio Xingu, about one hour upstream of Altamira by speedboat [Altamira: 3°13'S / 52°15'W]"; don: A. Werner, VII.1989. **ZSM 27438 (22)**, same location; don: A. Werner, X.1989. **ZSM 27769 (27)**, same location; don: A. Werner, X–XII.1989. **ZSM 27770 (48)**, same location; don: A. Werner, X–XII.1989. **ZSM 27962 (16)**, same location; don: A. Werner, 1989. **ZSM 27963 (43)**, same location; don: A. Werner, X.1990.

Remarks. Holotype MZUSP 41668 out of ZSM 27328; exchanged form ZSM 27962 (56 now 16): INPA 4338 (20), but according to inventory files, this lot included originally only 34 specimens MZUSP uncat. (20) likely exchanged out of 27963, 2 additional specimens from ZSM 27963 erroneously added by

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authors; exchanged from ZSM 27963 (83 now 42): MHNG 2513.24 (8), ZMA 120457 (10), 1 paratype is apparently missing or in ZMA 120655. ZMA 120655 (8) ex ZSM; the original lot remains unclear, not traceable in ZSM files. ZSM 27438 (22 now 21); one paratype was not returned from a loan and is considered lost.

Hypostomus peckoltoides Zawadzki, Weber & Pavanelli, 2010

Neotropical Ichthyology 8 (4): 720–723, figs 2–3.

Paratype: ZSM 39427 (1), 90.3 mm SL, [commercial import] Rio Cuiabá, collector and date unknown, don: Transfish, 2009.

Rineloricaria hasemani Isbrücker & Nijssen, 1979

Bijdr. Dierkd. 48 (2): 200, figs 4–5.

Paratype: ZSM 19732 (1), Maguary near Belem, along the Braganca "[Bragança, 1°02' S / 46°46' W]" railroad, in forest streams which empty into Rio Guamá "[Guamá, 1°35' S / 47°29' W]", Est. Pará (Brazil); leg: J. D. Haseman, 31.VII.1913.

Remarks. Specimen originally included in the syntype series of *Loricaria (Loricariichthys) fallax* Steindachner, 1915. Part of the Kähsbauer Donations (see Introduction for details); ZSM 19732 (1) ex NMW 44865 (2 now 1). Additional information on the locality quoted from original description.

Rineloricaria formosa Isbrücker & Nijssen, 1979

Bijdr. Dierkd. 48 (2): 192, figs 1–3.

Paratypes: ZSM 25281 (2), Rio Atabapo at San Fernando "de Atabapo", along Colombian / Venezuelan border, 04°03' N / 67°45' W (Venezuela); leg: H. J. Köpcke and M. Jeschke, 5.II.1973.

Xenocara damasceni Steindachner, 1907 (c)

Anz. Akad. Wiss. Wien 44 (17): 292.

Syntype: ZSM 7579 (1), male, Rio Parahyba (= Rio Parnaíba) [near Victoria and Sa. Filomena] (Brazil); coll. Steindachner, Bras. Exp., [8.VI.1903].

Remarks. Part of the Kähsbauer Donations (see Introduction for details); ZSM 7579 ex NMW 43491. Syntype status validated by Fisch-Muller in 1999 (pers. comm. 2001). Additional information on the type locality taken from original description; the date is restored from NMW data (Wellendorf, pers. comm. 2001). According to Fisch-Muller (in Reis et al. 2003) valid as ***Ancistrus damasceni*** (Steindachner, 1907).

Mastacembelidae

Mastacembelus simbi Vreven & Stiassny, 2009

Ichthyol. Explor. Freshwaters 20 (3): 214–218, figs 1–2.

Paratypes: ZSM 38605 (4), 53.4–63.5 mm SL, Congo River, small rock outcrop across main channel of Congo River from Lenga Lenga, near border with Republic of the Congo; Prov. Bas Congo, 4°53'42.43"S / 14°24' 18.70"E (Democratic Republic of Congo), leg: M. Stiassny et al., 7.VII.2008.

Remarks. ZSM 38605 (4) ex AMNH 247179 (23 now 1).

Mochokidae

Chiloglanis sanagaensis Roberts, 1989

Proc. Calif. Acad. Sci. (Ser. 4), 46 (6): 169, figs 1c, 2c, 3(e–f), 6(c–d), 9.

Paratypes: ZSM 26829 (3), R. Mana, 23 km N of Bafia "on route from Bafia to Bafoussam", Sanaga Basin (Cameroon); leg: T. R. Roberts, 1.I.1988.

Remarks. ZSM 26829 (3) ex MNHN 1988–1165.

Mochocus brevis Boulenger, 1906

Ann. Mag. Nat. Hist. (Ser. 7) 18 (104): 148.

Syntype: ZSM 5865 (1), White Nile at "Fashoda" [todays Kodok], Prov. A'āli an Nil (Republic of South Sudan), leg: Loat, no date.

Remarks. Original ZSM label reads "Fashoda Afrika"; marked and inventoried as "Co-Typus" from Schindler around 1952; likely exchanged from BMNH 1907.12.2.2529–2542 (42 now 14) before World War II, perhaps in return for type material described or exchanged by Zugmayer. However, ZSM 5865 apparently does not include a specimen of the species *Mochocus brevis*, but most likely *Microsynodontis batesii* (Tom Vigliotta, writt. comm. 20 Oct. 2008). A mix up of specimens at ZSM seems unlikely, as there were neither any *Microsynodontis* acquisitions nor any additional exchanges from BMNH around the acquisition of ZSM 5865. Boulenger based his description on 42 specimens from Fashoda (Boulenger 1906). The exchange of one syntype ex BMNH 1907.12.2.2529–2542 could not be validated after comparison of the available data in the register, database and comparison of original labels included in lot BMNH 1907.12.2.2529–2542 (Maclaine, pers. comm. 17 Jan. 2011). John Friel (pers. comm. 17 Jan. 2011) confirmed Maclaine that BMNH 1907.12.2.2529–2542 includes 15 instead of 14 syntypes, probably a miscount when the lot was accessioned at BMNH. The whereabouts of the missing 27 syntypes are unknown (John Friel, pers. comm. 17

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Fig. 5. Questionable syntype of *Mochocus brevis*, identified as member of the genus *Microsynodontis*.

Jan. 2011). One plausible explanation would be that the original syntype series accidentally included one *Microsyndontis* that was subsequently exchanged to ZSM, but the modern distribution of *Microsynodontis* and *Mochocus* is non overlapping and the genus *Microsynodontis* is strictly confined to the Congo basin, so a mix up of both species in the original syntype series remains doubtful. A second explanation would be that Schindler marked the lot mistakenly as syntype of *Mochocus brevis* for unknown reasons, while he precisely traced and restored missing data of pre-war types he rediscovered form the collection

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remains. Can not be clarified finally, ZSM 5865 (1) doubtfully included in the original syntype series and doubtfully a syntype of *Mochocus brevis*.

Monodactylidae

Monodactylus kottelati Pethiyagoda, 1991

D. Aquar. Terrar. Z. (DATZ) 44 (3): 164–167, figs 3, 5, 7–8.

Holotype: ZSM 27871, 78.5 mm SL, Puttalam-Lagoon near Kalpitiya, 8°14' N / 79°47' E (Sri Lanka); leg: R. Pethiyagoda, 26.VII.1990.

Paratypes: "ZSM/CMK" 7210 (9).

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004. This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38484 [ex ZSM 27871] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. Kottelat registered the holotype in the ZSM inventory as ZSM 27871 and later added "long term loan from CMK". However, Pethiyagoda distinguished well between both collections in the original description. The holotype is published as ZSM, while all paratypes and additional comparative material from the private collection Kottelat in ZSM are published as "ZSM/CMK" in the same work. For details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK" see introduction.

Mormyridae

Hippopotamyrus longilateralis Kramer & Swartz, 2010

J. Nat. Hist. 44 (35): 2231–2233, fig. 1a.

Paratypes: ZSM 38561 (2), Kunene River approx. 300 m upstream of Epupa Falls at Hot Springs Campsite, alt. approx. 600 m, 09:05 am / 12:54 pm, 17°00' 07" S / 13°14'57" E (Namibia); leg: B. Kramer, E. Swartz, L. da Costa, 15.VIII.2006. **ZSM 38562 (3)**, same location, collected between 11:57 am and 21:45 pm, 14. VIII.2006. **ZSM 38563 (1)** same location, night catch 23:00 pm, 14/15.VIII.2006. **ZSM 38564 (4)**, same location, collected between 10:24 am and 13:30 pm, 15.VIII. 2006. **ZSM 38565 (1)**, same location, collected 11:49 am, 16.VIII.2006. **ZSM 38566 (1)**, same location, collected 10:51 am, 17.VIII.2006. ZSM 38567 (1), same location, 16.VIII.2006.

Remarks. ZSM 38561 (2) includes specimen "Kune19" (159.0 mm SL, coll. 09:05 am) and "Kune27" (158.0 mm SL, coll. 12:54 pm); ZSM 38562 (3) specimens "Kune04" (163.1 mm SL), "Kune132" (159.8 mm SL, coll. 14:45 pm) and "Kune15" (170.0 mm SL, coll. 21:45 pm); ZSM 38563 (1) = specimen "Kune17" (138.6 mm SL); ZSM 38564 (4) specimens "Kune21" (155.7 mm SL, coll. 10:51 am), "Kune23" (133.0 mm SL), "Kune26" (153.2 mm SL, coll. 12:30 pm) and "Kune29" (126.2 mm SL, coll. 13:30 pm); ZSM 38565 (1) = specimen "Kune31" (121.5 mm SL); ZSM 38566 (1) = specimen "Kune33" (166.6 mm SL); ZSM 38567 (1) = specimen "Kune30" (175.0 mm SL).

Hippopotamyrus szaboi Kramer, van der Bank & Wink, 2004

Zool. Scripta: 33 (1): 6–8, figs 1, 4–7.

Paratypes: ZSM 29765 (1), Upper Zambesi River, rock opposite boat landing at Katima, Caprivi Region, 17°29'30" S / 24°16'18" E (Namibia); leg: B. Kramer, F. H. van der Bank, 9.VIII.1994. **ZSM 29766 (1)**, same data. **ZSM 29767 (1)**, same data. **ZSM 29768 (1)**, same data. **ZSM 29769 (1)**, same data. **ZSM 29770 (1)**, same data. **ZSM 29771 (1)**, Upper Zambezi at Wenela rapids, just upstream Katima Mulilo, Caprivi Region, 17°29'21.5" S / 24°15'33" E (Namibia); leg: B. Kramer, F. H. van der Bank, 3.IV.1996. **ZSM 29772 (1)**, same location as ZSM 29771; leg: B. Kramer, F. H. van der Bank, 9.IX.1997.

Remarks. ZSM 29765 = specimen "ansor 2", ZSM 29766 = specimen "ansor 3", ZSM 29767 = specimen "ansor 6", ZSM 29768 = specimen "ansor 9", ZSM 29769 = specimen "ansor 11", ZSM 29770 = specimen "ansor 12", specimen kept in aquarium for considerable time, preserved 26.III.2001. ZSM 29771 = specimen "Ka 64", ZSM 29772 = specimen "Ven07".

Marcusenius altisambesi Kramer, Skelton, van der Bank & Wink, 2007

J. Nat. Hist. 41 (9–12): 681–684, fig. 1.

Paratypes: ZSM 35082 (2), Upper Zambesi River at Kalimbeza, East Caprivi Region, 17°32'27.3" S / 24°31'26.2" E (Namibia); leg: B. Kramer, F. Herman van der Bank, 7.VIII.2004. **ZSM 35085 (2)**, Upper Zambesi River at Lisikili, near Katima Mulilo, East Caprivi Prov., 17°33' S / 24°29' E (Namibia); leg: B. Kramer, F. Herman van der Bank, 7.III.1994. **ZSM 35086 (5)**, same data as ZSM 35085, 5.III.1994. **ZSM 35097 (1)**, Upper Zambesi River at Lisikili, near Katima Mulilo, East Caprivi Prov., 17°33' S / 24°29' E (Namibia); leg: B. Kramer, F. Herman van der Bank, 5.VIII.2004.

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Remarks. ZSM 35082 (2) includes specimens "CID87" (7.3 cm SL) and "ID86" (13.7 cm SL); ZSM 35085 (2) specimens "L40isi" (15.5 cm SL) and "L41isi", the latter exchanged from SAIAB for specimen "L39isi" from this lot (= holotype, 13.3 cm SL), SAIAB 79135 ex ZSM 35082; ZSM 35086 (5) specimens "L02isi" (13.3 cm SL), "L04isi" (13.3 cm SL), "L05isi" (12.7 cm SL), "L12isi" (13.0 cm SL) and "L16isi" (13.4 cm SL); ZSM 35097 (1), specimen "ID30" (6.1 cm SL).

Marcusenius devosi Kramer, Skelton, van der Bank & Wink, 2007

J. Nat. Hist. 41 (9–12): 686–688, fig. 1.

Paratypes: ZSM 35091 (3), **ZSM 35092 (1)**, **ZSM 35093 (4)**, **ZSM 35094 (7)**, River Tana (East Kenya) at Tana Primate Research Centre, 01°52' 38.1" S / 40°08'22.5" E (Kenya); leg: B. Kramer, Luc de Vos, 3–6.IX.2001.

Remarks. ZSM 35091 (3) includes specimens "Ta29na" (9.8 cm SL), "Ta31na" (10.0 cm SL) and "Ta33na" (11.3 cm SL); ZSM 35092 (1) specimen "Ta11na" (10.7 cm SL); ZSM 35093 (4) specimens "Ta14na" (10.5 cm SL), "Ta20na" (9.9 cm SL), "Ta22na" (10.3 cm SL) and "Ta27na" (10.6 cm SL); ZSM 35094 (7) specimens "Ta47na" (7.9 cm SL), "SinEOD4" Tana (10.7 cm SL), "ID1" (11.4 cm SL), "ID3" (12.1 cm SL), "ID5" (8.5 cm SL), "ID7" (8.0 cm SL) and "ID9" (10.5 cm SL).

Nothobranchiidae

Aphyosemion passaroi Huber, 1994

Rev. Fr. Aquariol. 20 (3): 78, fig. 1.

Paratype: ZSM 29257 (1), "Gabon sud-oriental, 81.3 km E of Moukabou vers Koulamoutou [E of Dimbou village], Station P.E.G. 93/11, 1.42° S / 12.03° E" (Gabon); leg: W. Eberl, G. Passaro, 10.VII.1993.

Remarks. Appeared previously in Eschmeyer Catalogue (online version updated 25 Oct. 2010) as ZSM uncat. (1).

Aphyosemion plagitaenium Huber, 2004

Freshwater and Marine Aquarium (FAMA) 27 (12): 72–73, 5 figs.

Paratypes: ZSM 31148 (2), near village Epoma, within Mambili catchment area, Prov. Sangha, 0.476° N / 15.351° E (Republic of Congo); leg: P. de Wageneer, L. van den Berg, B. Vlijm, 1991; don: H. Ott, 2004.

Remarks. Aquarium stock (RPC 91/1), specimens preserved in 2004. Not the same as *Aphyosemion plagitaenium* Huber, 1980 (nomen nudum) (for details see Eschmeyer Catalogue, updated online version 25 Oct. 2010).

Epiplatys kassiapleuensis Berkenkamp & Etzel, 1977

Aquarienfreund 6 (10): 190–195, figs 2–3, 7.

Paratypes: ZSM 25423 (5), 2 km west of Kassiapleu, tributaries of Sassandra river, highland of Man (Ivory Coast); leg: V. Etzel, 31.XII.1974.

Remarks. Synonym of ***Epiplatys olbrechtsi*** Poll, 1941, but a valid subspecies (Romand in Lévêque et al. 1992).

Nothobranchius foerschi Wildekamp & Berkenkamp, 1979 (b)

DKG-Journal 11 (11): 147–150, 1 fig.

Paratypes: ZSM 18763–18770 (8), "4 males and 4 females, imported from Daressalam (Tanzania), VI.1959"; don: Foersch. **ZSM 15433 (1)**, male, "Aquariumfisch" [aquarium specimen, no location available]; don: Foersch, 1958.

Remarks. Wildekamp described this species after field surveys in Tanzania and examination of material deposited in various museums. W. Foersch donated aquarium specimens, which were apparently imported by Tropicarium Frankfurt. The information "leg: Foersch" on the ZSM lot labels is erroneous, suggesting that Foersch collected the material in the field, which seems doubtful.

Nothobranchius hengstleri Valdesalici, 2007

Zootaxa 1587: 62–66, figs 1–4.

Holotype: ZSM 34483, male, 41.3 mm SL, Cabo Delgado, about 5 km north of Nassoro village, temporary pools, 10°53.222' S / 40°22.094' E (Mozambique); leg: H. Hengstler, S. Vendo, 18.V.2005.

Paratypes: ZSM 34484 (1), 40.5 mm SL, **ZSM 34485 (1)**, 33.1 mm SL and **ZSM 34486 (1)**, 30.9 mm SL, collected with the holotype.

Remarks. Holotype ZSM 34483 and paratype ZSM 34484 kept for 7 month in aquarium, paratypes ZSM 34485 and ZSM 34486 immediately preserved in the field.

Nothobranchius jubbi interruptus Wildekamp & Berkenkamp, 1979 (a)

DKG-Journal 11 (5): 65–75.

Paratypes: ZSM 24531 (5), 3 males, 2 females, swamp area, about 15 km north of Mombasa, coastal lowland (Kenya), leg: P. Nagy, IX 1968.

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Remarks. Collection site as given on the lot label: "Eastern Kenya, 45 km north of Mombasa (Kenya)". The location "45 km N of Mombasa" corresponds with various different lots and the handwritten entries in the ZSM inventory; the distance given in the original description might be incorrect. Valid as ***Nothobrachius interruptus*** Wildekamp & Berkenkamp, 1979 (Seegers et al., 2003).

Nothobranchius krammeri Valdesalici & Hengstler, 2008

Aqua, Int. J. Ich. 14(4): 188–190, figs 1–5.

Holotype: ZSM 35101, male, 27.0 mm SL, Cape Delgado, temporary pool about 35 km north of Mocimboa da Praia village, Meronvi River basin, 11°09.405' S / 40°19.441' E (Mozambique); leg: H. Hengstler, S. Vendo, 15.V.2005.

Paratype: ZSM 35102 (1), female, 26.6 mm SL, collected with the holotype.

Remarks. Upper portion of caudal fin of holotype removed for DNA-analysis.

Nimbapanchax melanopterygius Sonnenberg & Busch, 2009

Zootaxa 2294: 14–17, figs 6a–d.

Paratypes: ZSM 37485 (4), 2 males, 2 females, Konkere River near Kementa, 7°43.83' N / 8°26.49' W (Guinea); leg: E. Busch, B. Wiese, 15.V.2006, loc. GF 06/1.

Remarks. ZSM paratypes not listed in Eschmeyer Catalogue (updated online version, 25 Oct. 2010). To be transferred to ZSM.

Osphronemidae

Belontia signata jonklaasi Benl & Terofal, 1975

Veröff. Zool. Staatssamml. München 18: 246–247, pl. 2, figs 1–3.

Holotype: ZSM 24710, no exact location available; don: Benl, Ceylon Import, 1968.

Paratypes: ZSM 22934 (2), no exact location available; don: Benl, Ceylon Import by Fa. Werner, 1968. **ZSM 24714 (1)**, no exact location available; don: Benl, Ceylon Import by Fa. Werner, 1968.

Remarks. Described from aquarium specimens, imported by A. Werner, Munich in 1968. Aquarium specimen in ZSM 24714 died 12.VI.1968. Additional information on the location without exact reference to the type material in original description is published as follows: "Ja-Ela, Kurunegala (in a lake), Katugaltota near Kandy and also from Wellwatta" (Rodney Jonklass, pers. comm. 1.11.1968 cited in description]. The female allotype ZSM 24711 was loaned from M. Kottelat to M. Kottelat in 1992 and is since then missing from the collection. It belongs to ZSM and has to be returned.

Betta brownorum Witte & Schmidt, 1992

Ichthyol. Explor. Freshwaters 2(4): 312, figs 5–6.

Holotype: ZSM 28090, "female, small peat swamp forest 2.55 km S of the Batang Rejang ferry on the road from Sibu to Kuching, 3rd Division, Sarawak, 2°08' N / 112°00'30" E (Malaysia); leg: C. Kettner, R. Krummenacher, K. E. Witte, 21.III.1986".

Paratypes: ZSM 28091 (1), male; **ZSM 28092** (2, c&s), same data as holotype.

Remarks. Collection site given on lot labels: small peat swamp forest 2.55 km S of the ferry over the Batang Rejang along the road from Sibu to Kuching, 2°08' N / 112°00'30" E, 3rd Division, Sarawak (Malaysia). Latitude data corrected as follows: 2°08'13" N [close to road]. ZSM 28092 (2, c&s) not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). The paratypes are missing since Kottelat's departure from ZSM in 1992; the specimens belong to ZSM and have to be returned.

Betta persephone Schaller, 1986

D. Aquar. Terrar. Z. (DATZ) (39)7: 298–300, 2 figs.

Paratypes: "ZSM/CMK 5944" (4), Asian Highway No. 2, "etwa drei Straßenkilometer nördlich von Ayer Hitam, südliche malaiische Halbinsel (Vierkantrohrbrücke) [at road bridge approx. 3 road kilometres N of Ayer Hitam]" (Malaysia); leg: D. Schaller, "24.II.1985".

Remarks. Schaller designated in his original description the following types: holotype ZFMK 14226; paratypes ZFMK 14227–14238 (12), ZMB uncat. (4), now retained in ZMB 31614 (4) and ZMH uncat. (4). The deposition in the latter institution is indicated by naming the abbreviation "ZMH" and explicitly naming the "Zoologisches Institut und Museum der Universität Hamburg". Obviously the paratypes have never been transferred to ZMH as no paratypes of this species are available or have been accessed in ZMH (Thiel, pers. comm. 4 Feb. 2011). Schaller & Kottelat (1989) corrected the information regarding the four ZMH paratypes inasmuch that Schaller (1986) mistakenly mentioned ZMH for deposition while the paratypes were actually in ZSM ["tatsächlich sind die Paratypen in ZSM"]. In the next sentence the four ZMH paratypes appear as "ZSM/CMK 5944", indicating that Kottelat in fact not inventoried the paratypes in ZSM but transferred them to his private collection CMK. Schaller (pers. comm. III.2006 and

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II.2011) confirmed that he intended deposition of these four paratypes in "ZSM", meaning the ZSM collection and not the private Collection Maurice Kottelat in ZSM ("ZSM/CMK"). The paratypes were not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). The paratypes are missing since Kottelat's departure from ZSM in 1992; the specimens belong to ZSM and have to be returned.

***Betta rutilans* Witte & Kottelat, 1991 in Kottelat 1991** (c)

Ichthyol. Explor. Freshwaters 2 (3): 278–280, fig. 2.

Holotype: ZSM 27977, 23.4 mm SL, Sungei Kepayang, 7 km southeast of Anjungan on road to Pontianak, Kalimantan Barat, Borneo, 0°20' N / 109°08' E (Indonesia); leg: M. Kottelat, U. Schliewen, Joe Him, Freddy Liem and Ivan, 21.IV.1990.

Remarks. Holotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). This specimen has been rediscovered during a type search in the online version of the Eschmeyer Catalogue; it is now registered in ZRC as ZRC 38452 [ex ZSM 27977] and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005). This specimen belongs to ZSM and should be returned. The holotype is published as ZSM and not as part of "ZSM/CMK". Kottelat registered the holotype in the ZSM inventory as ZSM 27977 (1) ex CMK 6671 and confirms the exchange from CMK to ZSM; it was not a "long term loan" from CMK. Moreover, it was Kai Erik Witte's clear intention to deposit the material in the ZSM collection, not in CMK (K. E. Witte, pers. comm. Sep. 2005). The paratypes in "ZSM/CMK" 7438 (4), 7439 (1) published in the same work should be returned.

***Betta strohi* Schaller & Kottelat, 1989**

D. Aquar. Terrar. Z. (DATZ) (43) 1: 33–34.

Holotype: ZSM 26718, Nataik Sedawak, about 30 km S of Sukamara, Kalimantan Tengah, Borneo, 2°41'S / 111°13'E (Indonesia); leg: Pater H. Stroh, X.1987.

Paratypes: ZSM 26719 (32), same data as holotype. **ZSM 26979 (10)**, same location; leg: Pater H. Stroh, VIII.1988.

Remarks. Current DATZ issues are published at least one week prior to the current month, thus the January issue 1990 (43/1) appeared latest in the last December week 1989 (DATZ editorial office, pers. comm. XI.2011). 4 paratypes of ZSM 26719 (38) temporarily stored from II.1992–2005 in the ZRC collection (ZRC 32126–32129) and officially returned to ZSM by Kelvin Lim 12.V.2005; 6 paratypes exchanged to LIPI 13.III.2006, MZB 15186 ex ZSM 26719 (38 now 30); 2 paratypes in ZSM 26719 are obviously missing since the departure of M. Kottelat from ZSM in 1992; not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). They belong to ZSM and should be returned.

***Betta tussyae* Schaller, 1985** (a)

D. Aquar. Terrar. Z. (DATZ) (38) 8: 350, 2 figs.

Holotype: ZSM 27336, "Asian Highway Route No. 18, 16 Straßenkilometer südlich von Kuantan. Östliche Malayische Halbinsel, Malaysia. [16 road kilometres S of Kuantan; eastern Malayian Peninsula]"; leg: D. Schaller, 22.II.1985.

Remarks. Schaller & Kottelat (1989) corrected information on the holotype and the type locality as follows: "Fundort des Holotypes: Der Holotyp wurde 1984 in Malaysia, Pahang Staat, 17 Kilometer südlich von Pekan, ungefähr 77 Kilometer südlich von Kuantan, an der Straße parallel zur Ostküste, etwa einen Kilometer landeinwärts, von Nagy gesammelt. [Location of the holotype: The holotype was collected by Nagy in 1984 in Malaysia, State of Pahang, 17 km south of Pekan, approximately 77 km south of Kuantan, along the road running parallel to the eastern coast, about one kilometer inland]". ZSM 27336 was temporarily stored from 1992–2005 in the ZRC collection (ZRC 38451) and officially returned to ZSM by Kelvin Lim 12.V.2005. The specimen returned from ZRC measures 48 mm TL and 37 mm SL, which disagrees with the lengths as published in the original description. The specimen stored in ZSM 27336 is a diseased aquarium specimen that was not selected as holotype (Schaller, pers. comm. IV.2006). The species is based in the original description only on the holotype and 3 paratypes (ZFMK 14224–14225 (2) and ZFMK 14195 (1)). The type status of ZFMK 14196–14207 (12), 14208–14212 (6), 14224–14225 (2); ZMB 31607–09 (6, 9, 3); ZSM/CMK 6345 (11) is doubtful: Schaller excluded these specimens explicitly from the type series (Schaller 1985: 350), as they appeared to small to be measured (Kottelat & Schaller 1989: 35: "Die Bezeichnung 'unbrauchbar' soll als 'wegen zu geringer Größe für eine Vermessung unbrauchbar' verstanden werden [The denotation 'unusable' should be understood as 'because of being too small in size for measuring']"). Schaller designated the holotype and three paratypes (which have been measured) immediately thereafter (Schaller, 1989: 35, same sentence). The separate mention of other (additional) specimens in combination with designation of a holotype and paratypes expressly excludes these specimens from the type series (ICZN, Art. 72.4.6); the subsequent designation

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of additional paratypes by Schaller & Kottelat (1989) is not covered by the Code and therefore rejected. In accordance with the Code, ZFMK 14196–14207 (12), 14208–14212 (6), 14224–14225 (2); ZMB 31607–09 (6, 9, 3); ZSM/CMK 6345 (11), should be treated as comparative material of *Betta tussyae*.

***Parosphromenus anjunganensis* Kottelat, 1991** (c)

Ichthyol. Explor. Freshwaters 2 (3): 281, fig. 3.

Paratype: ZSM 27935 (1), Sungai Kepayang, 7 km SE of Anjungan on road to Pontianak, Kalimantan Barat, Borneo (Indonesia); leg: H. Linke, N. Neugebauer, VII. 1990.

Remarks. Field-no. Loc. 1990: 14; N. Neugebauer is not mentioned as collector on the lot label.

***Parosphromenus linkei* Kottelat, 1991** (c)

Ichthyol. Explor. Freshwaters 2 (3): 282–283, fig. 4.

Holotype: ZSM 27978, Creeks in Pudukuali (6 km NE of Sukamara), 2 km N of Sukamar and Tarantang (6 km S of Sukamara), Kalimantan Tengah, Borneo (Indonesia); leg: H. Linke, N. Neugebauer VII.1990.

Paratypes: ZSM 27918 (12), same data as holotype.

Remarks. Field-no. loc. 1990: 8–10; N. Neugebauer is not mentioned as collector on ZSM lot labels. ZSM 27978 (1) ex ZSM 27198 (15 now 14). Two paratypes of ZSM 27918 were temporarily stored in the ZRC collection (ZRC 32124–32125) from 1992–2005 and officially returned to ZSM by Kelvin Lim 12.V.2005. The whereabouts of two paratypes out of ZSM 27918 are unknown since the departure of M. Kottelat from ZSM in 1992; they belong to ZSM and should be returned. Two paratypes exchanged to LIPI, 13.III.2006, MZB 15182 ex ZSM 27918 (14 now 12).

***Parosphromenus nagyi* Schaller, 1985** (b)

D. Aquar. Terrar. Z. (DATZ) 38 (7): 302–303, 3 figs.

Paralectotypes: "ZSM/CMK 5949" (2), Asian Highway Route No. 18 (old Route from Kuantan to Padang) at kilometerstone 16 south of Kuantan, Pahang Province (Malaysia); leg: D. Schaller, 22.II.1985.

Remarks. All type specimens were kept in aquarium (Foersch, Munich) and were sacrificed a few months later. The complete material was deposited in ZFMK but later divided; 2 paratypes were returned from ZFMK to ZSM as institutional exchange (Busse, pers. comm III.2006). The paratypes were not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann). Schaller (pers. comm. III.2006) confirmed that he originally intended deposition of two paratypes in "Munich", meaning the ZSM collection. However, M. Kottelat transferred the specimens to his private collection in ZSM ("ZSM/CMK") and both are missing since his departure from ZSM. The institutional deposition of the type material is clear from the original description as well. The specimens belong to ZSM and have to be returned.

***Parosphromenus ornaticauda* Kottelat, 1991** (c)

Ichthyol. Explor. Freshwaters 2 (3): 283, fig. 5.

Paratypes: ZSM 27934 (1), Sungai Pinyuh, 8 km S of Singkawang on road to Pontianak, Kalimantan Barat, Borneo, "0°20' N / 109°8' E" (Indonesia); leg: H. Linke " and N. Neugebauer" (loc.: 1990: 13), VII.1990. "ZSM/CMK" 6644 (16).

Remarks. N. Neugebauer is not mentioned as collector on the lot label. ZSM/CMK 6644 (16) was collected by the same collectors at the same locality together with the specimen in ZSM 27934 (1) but not accessioned as part of ZSM collection but in "ZSM/CMK"; see Introduction for details regarding the actual deposition of material and usage of the museum abbreviation "ZSM/CMK".

Pangasiidae

***Pangasius conchophilus* Roberts & Vidthayanon, 1991**

Proc. Acad. Nat. Sci. Phila. 143: 114–116, figs 1b, 2j, 5.

Paratypes: "ZSM/CMK" 4807 (1), 5095 (5), 5110 (1).

Remarks. No type material of this species is deposited in ZSM. See introduction for details regarding the actual deposition of material and the use of the museum abbreviation "ZSM/CMK".

Parodontidae

***Parodon guyanensis* Géry, 1959** (b)

Bull. Mus. Natl. Hist. Nat. (Sér. 2), 31 (6): 481, figs 1–2.

Paratype: ZSM 17797 (1), upper Mana, crique Deux – Branches near Saut – Fini (French Guiana); leg: Lelong, 25.X.1957.

Remarks. ZSM lot label gives Géry as collector, which might be erroneous; the ZSM paratype is not mentioned in the original description.

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Percidae

Aspro streber Siebold, 1863

Die Süsswasserfische von Mitteleuropa: 54–55.

Syntypes: ZSM [Old Collection] (14), "Danube and Amper" [no percise location available]; coll. von Siebold, 1854–1862.

Potential syntype: ZSM 16 (1), "Alte Sammlung" [Old Collection].

Remarks. No specimens marked as syntypes of *Zingel streber* were found during a type search in July 2005 (D. Neumann); most of the syntypes were apparently lost in World War II (see historical review for details). However, ZSM 16 (1) is marked by Schindler as "Alte Sammlung" [Old Collection]. This specimen is identified as potential syntype. The specimen was evidently stored in a smaller glass container for a long time period, as even today, in a sufficient large container, the end of the caudal fin is bending nearly perpendicular in the sagittal plane to fit under the lid of a formerly smaller container. Furthermore, this specimen was originally fixed to a glass panel, with the paired and unpaired fins being partly perforated and obviously pinned for fixation or mounting. This specimen was likely part of the public exhibition of the Natural Cabinet in the Wilhelminum, which was build up under Siebold's supervision (see historical review for details). Siebold material is still available in ZSM and it is not unlikely that specimen ZSM 16 dates back to Siebold. Siebold gives a range of "6 bis 7 Zoll" for his new species [14.59–17.03 cm; 1 Bavarian Zoll = 2.43216 cm]; ZSM 16 measures 16.9 cm in TL which would agree with the ranges in the original description. However, all data concerning this specimen were lost in World War II. Even if the identification of this specimen as potential syntype is tentative and based on weak and insufficient data, the same weak and insufficient data do not allow exclusion of ZSM 16 from the original syntype series, either. Given the fact that this specimen is still available from the Old Collection, evacuated together with the few remaining pre-War lots from the public exhibition in the Wilhelminum, ZSM 16 should be treated as a potential syntype of *Zingel streber*, as long as there is no evidence that this specimen was collected later than 1862 or was not seen by Siebold.

Gymnocephalus baloni Holcík & Hensel, 1974

Copeia 1974 (2): 472–479, figs 1, 3a, 4a

Paratypes: ZSM 38081 (2), Danube River at Klizská Nemá [47°44'32.74" N / 17°48'59.21" E] (Slovakia), leg: K. Hensel.

Remarks. ZSM 38081 (2) exchanged from paratype series at CU-RY 196 (20 now 18).

Gymnocephalus ambriaelacus Geiger & Schliewen, 2010

Spixiana 33 (1): 127–130, fig. 8a.

Holotype: ZSM 33199, 94 mm SL, Lake Ammersee at Ried, depth: approx. 5 m, Isar catchment area, Upper Bavaria, Bavaria State, 48°0'21" N / 11°8'29" E (Germany), leg: W. Ernst, 10.V.2005.

Paratypes: ZSM 32824 (4), 73.6–112.5 mm SL, collected at type location, leg: W. Ernst, III.2005. **ZSM 33314 (10)**, 78.8–106.0 mm SL, same location, depth: 6 m, leg: W. Ernst, 24.V.2005. **ZSM 33834 (11)**, 76.1–116.9 mm SL and **ZSM 38522 (2)**, 79.6–83.3 mm SL, same data as holotype. **ZSM 38781 (10)**, 69.6–93.1 mm SL, Lake Ammersee close to Ried, 48°0' 20.06" N / 11°8'26.39" E, leg: W. Ernst, 20.VI. 2009.

Remarks. ZSM 38522 (2) ex ZSM 33199 (3 now 1); SMF 32879 (2) ex ZSM 38781 (10 now 8); CU-RY uncat. (two specimen IDs "MFG 146" and "151") ex ZSM 33834 (11 now 9). Additional material (non types): ZSM 30687 and ZSM 31966.

Pimelodidae

Pimelodus cuyabae Steindachner, 1877

Sitzungsber. Akad. Wiss. Wien 74 (1. Abth.): 633 [76].

Paralectotype: ZSM 4823 (1), Cuyaba, Bagre das Lagos (Brazil), leg: Natterer, 1824.

Remarks. Part of the Kähsbauer Donations of NMW; ZSM 4823 (1) ex NMW 45919 (3 now 2) (Wellendorf, pers. comm. 2001). Lectotype designated by Silfvergrip (1996: 28) and placed doubtfully in the synonymy of ***Rhamdia quelen*** (Quoy & Gaimard, 1824).

Poeciliidae

Mollienesia sphenops petersi Schindler, 1959 (a)

Opusc. Zool., München, 31: 1, figs 1–2.

Holotype: ZSM 15639, male, Lago Yojoa, northwest (Honduras); leg: H. M. Peters (Peters No. 430), 29–31.VIII.1951.

Allotype (paratype): ZSM 15640 (1), female, same data.

Paratypes: ZSM 15716–15723 (8), males, same data. **ZSM 15724–15769 (44)**, females, same data.

Remarks. Only the allotype is depicted in description, but without reference to a ZSM-No. ZSM 15724–

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69 holds 46 instead of 44 specimens (excluded from this count are separated lots of holo- and allotype). Additional paratypes have been exchanged by Schindler to NMW, but he gives no number of transferred specimens. NMW 61117 (3) tentatively treated as paratypes, since Schindler explicitly refers to an exchange of paratypes to NMW in the original description. Taxonomic placement is uncertain; Poeser (2003) questionably placed *Mollienesia sphenops petersi* into synonymy with *Poecilia gillii* without comparing the type material. However, Lucinda (in Reis et al. 2003) placed the taxon as a species inquirenda in Poeciliidae. Relevant type material needs to be examined. Paratypes have been loaned to Poeser in Oct. 2009, but no results on the taxonomic placement of this species have been published so far.

Rhamphichthyidae

Gymnorhamphichthys hypostomus petiti Géry & Vu-Tân-Tuê 1964

Vie Milieu, Suppl. 17: 486, pl. 1

Paratype: ZSM 26764 (1), Rio Araguaira, Ilha do Bananal (Brazil); leg: H. Schultz, VII.1959.

Remarks. According to Ferraris (in Reis et al. 2003: 492) valid as ***Gymnorhamphichthys petiti***. Previously not mentioned in the Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Rivulidae

Austrolebias apaii Costa, Laurino, Recuero & Salvia, 2006 in Costa 2006

Zootaxa 1213: 108–111, fig. 42.

Paratypes: ZSM 33650 (102), 38 males, 17.1–37.8 mm SL, 64 females, 22.4–35.9 mm SL, ditches along Ruta 96, NW of Mercdes at road km 8, Rio Negro catchment, Departamento de Soriano, 33°26.30' S / 58º16.59' W (Uruguay); leg: P. Laurino, F.I. Prieto, H. and J. Salvia, 12.IX.2004.

Remarks. Specimens still with first author, to be transferred to ZSM (Sep. 2011).

Austrolebias salviai Costa, Litz & Laurino, 2006 in Costa 2006

Zootaxa 1213: 137–138, fig. 51.

Paratypes: ZSM 33389 (8), 4 males, 21.6–37.9 mm SL, 4 females, 26.3–36.9 mm SL, temporary swamp near Rio Tacuari, Paso de Dragón, Laguna Merin, Departamento Treinta y Tres, 32°45.95' S / 53°43.16' W (Uruguay); leg: P. Laurino, T. Litz, H. Salvia, J. Salvia, 30.VIII.2004. **ZSM 33390 (4)**, 1 male, 28.1 mm SL, 3 females, 29.2–31.9 mm SL, same data.

Remarks. ZSM 33389 ex CTL 1653, collected with the holotype; additional paratypes from this lot in UFRJ 6169 (8) and UFRJ 6170 (4, c&s). ZSM 33390 (4) ex CTL 1658; additional paratypes from this lot in MUNHINA 3210. Specimens still with author, to be transferred to ZSM (Sep. 2011). According to Loureiro & García (2008) questionably a synonym of ***Austrolebias reicherti*** (Costa, pers. comm. Dec. 2010).

Cynolebias ladigesi Foersch (ex Myers), 1958

D. Aquar. Terrar. Z. (DATZ) 11 (9): 257–260, figs 1–7.

Syntypes: ZSM 15481 (1), male, aquarium stock of unknown origin; don: W. Foersch, obviously received 1958. **ZSM 15482–3 (2)**, females, same data.

Remarks. "Accidental" description by W. Foersch in an aquarium hobbyist magazine; in his article Foersch refers to specimens that have been sent from Ladiges to Myers for identification in August 1955; the Eschmeyer Catalogue (updated online version 25 Oct. 2010) is treating these specimens as "possible types [Myers specimens]: SU 50192 (1), 50193 (1)". However, Foersch received the specimens published in his article nearly one year later from a hobbyist L. v. Schroeter "Ende [late] 1956". As Foersch's description is not based on the specimens Ladiges sent to Myers, SU 50192 (1) and 50193 (1) are non-types. Moreover, there is no indication that these specimens originate from the same location as the Ladiges specimens mentioned earlier in his article, thus the type location "Pools, 80 kilometers northwest from Rio de Janeiro, Brazil" as cited in the Eschmeyer Catalogue (updated online version 25 Oct. 2010) is questionable, and it remains questionable, too, if Foersch's specimens originate from the same (aquarium) stock that Ladiges originally received and sent later to Myers at all. As no holotype was fixed in the original description, all specimens published by Foersch are simultaneous syntypes (Art. 73.2 ICZN). According to Costa (in Reis et al. 2003) in the synonymy of ***Leptolebias minimus***. Previously not mentioned in Eschmeyer Catalogue (updated online version 25 Oct. 2010).

Rivulus lyricauda Thomerson, Berkenkamp & Taphorn, 1991

Ichthyol. Explor. Freshwaters 1 (4): 290–293, figs 1–3.

Paratypes: ZSM 27957 (2), females, small stream draining morichal swamp below guest houses at Campamiento Canaima, tributary to Rio Carrao, Rio Caroni basin, Bolivar State, 06°15' N / 62°48' W (Venezuela); leg: L. Nico and L. Delashmit, 22.IV.1990, loc. no. LN 89-35.

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Remarks. Lot SMF 18437 appeared twice in original description; ZSM 27957 is published mistakenly as "SMF 18436, female, 30.0 mm SL; and SMF 18437, female, 32.6 mm; same data as holotype".

Salmonidae

Salvelinus evasus Freyhof & Kottelat, 2005

Rev. Suisse Zool: 259, figs 3–5.

Holotype: ZSM 30460, Ammersee (Lake) between Schondorf and Utting, approx. 50 m depth, Bavaria (Germany); leg: W. Ernst, III.2003.

Paratypes: ZSM 30458 (1), **ZSM 30459 (1)**, **ZSM 30461 (2)**, same data as holotype. **ZSM 4481–4485 (5)**, Lake Ammersee, Bavaria (Germany); leg: S. Rauch, X.1951. **ZSM 4487–4502 (16)**, same lot as previous. **ZSM 5943–5946 (4)**, Lake Ammersee, Bavaria (Germany); leg: A. Rauch, 19.X.1951. **ZSM 29525 (14)**, Lake Ammersee, Bavaria (Germany); leg: S. Rauch, X/XI. 1996. **ZSM 29526 (14)**, same data as previous.

Remarks. ZSM 4481–4503 originally contained 22 specimens. One specimen of this lot was removed and prepared as dry skeleton by Schindler, separately inventoried as ZSM 4486. This single specimen was not used in the original description and is therefore excluded as paratype from the paratype series. Erroneously, ZSM 4487 instead of ZSM 4486 has been excluded in the original description. SMF 32878 (2) exchanged from ZSM 29525 (14 now 12).

Scoloplacidae

Scoloplax empousa Schaefer, Weitzman & Britski, 1989

Proc. Acad. Nat. Sci. Phila. 141: 194, figs 7, 8, 11.

Paratypes: ZSM 26751 (4), Rio Ivinheima 70 km upstream from its confluence with Rio Paraná and Rio dos Bandeirantes, Mato Grosso, approx. 22°35' S / 53°30' W (Brazil); leg: O. Schindler, 6.VIII.1938. **ZSM 26752 (5)**, same data, 24.V.1938. **ZSM 26753 (33)**, same data, 8.V. 1938. **ZSM 26754 (107)**, same data, 6.V. 1938. **ZSM 26755 (38)**, same data, 28.IV.1938.

Remarks. The complete type series of *Scoloplax empousa* was collected by O. Schindler in the course of the IV. Brazil Expedition of Hans Krieg. From their field camp at the Rio Ivinheima Schindler, Fischer and Kühlborn went for excursions in a nearer area while waiting for the return of Krieg and Schumacher from Patagonia (Huber 1998). The holotype and all paratypes deposited in other museums have been exchanged out of ZSM. Comparing the original number of specimens included in the single ZSM lots, it seems likely that the holotype, MZUSP 39075 (1), originates from ZSM 26754 and not from ZSM 26753; it then would have been collected on the 6th not 8th of May 1938. Elsewise, considering the collection date of the holotype to be correct, the original number of specimens in ZSM 26753 must have been 34 instead of 33 to allow an exchange of 8 specimens from this lot. Accordingly, Kottelat should have filed only 129 instead of 130 specimens in ZSM 26754 in the ZSM inventory, as 107 specimens are retained in ZSM and additional 22 have been exchanged from this lot (excluding the holotype). Exchanged specimens from ZSM 26753 (33 now 26): AMNH 58293 (5), 2 additional specimens lateron for clearing and staining (S. Schäfer, 14.VII.1988), now retained in USNM 300627 (2, c&s). Exchanged from ZSM 26754 (130 now 107): ? MZUSP 39075 (1), holotype; MHNG 2437.11 (5) (MHNG type catalogue, online version Dec. 2010); USNM 300625 (5) and USNM 300626 (2, c&s), collection date in NMNH type catalogue (online version, Dec. 2010) mistakenly May 8th 1938, should be 6th; ANSP 162804 (5) (ANSP online catalogue Dec. 2010); MZUSP 39076 (5). Exchanged specimens from ZSM 26755 (53 ? now 38, 33 + 5 separately packed): UMMZ 214696 (5); ZMA 120504 (5); NRM 14586 (5) (included label reads NRM A88/1938/87.4586), date in NRM database gives mistakenly 8.V.1938; according to ZSM files the collection data of the lot is the 28th not 29th of April 1938. The Eschmeyer Catalogue erroneously gives 5 instead of 4 specimens for ZSM 26751 (updated online version, 25 Oct. 2010).

Telmatherinidae

Paratherina wolterecki Aurich, 1935 (b)

Zool. Anz. 112 (7/8): 170–172, figs 6b, 7b.

Syntypes: ZSM [Old Collection] (5), 85–110 mm TL, Mahalona-See [Lake Mahalona], Sulawesi, (Indonesia); leg: R. Woltereck, X.1932.

Neotype: ZSM 27767, 43.2 mm SL, Lake Towuti, Telok Balaote, about 8 km S of Timampu, Sulawesi (Indonesia); leg: A. Werner and M. Kottelat, 14.III. 1989.

Remarks. The syntypes were apparently destroyed in World War II (Kottelat 1990d); not found during various type searches. Collection data restored from Woltereck (1933). Neotype selected by Kottelat (1990d). The neotype was not found during type searches in 1998 (F. Zajitschek and S. Nell), 1999, 2000, and 2004 (D. Neumann) in the ZSM collection after M. Kottelat left as curator in 1993. The neotype was

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intended to replace the original but lost syntypes. The neotype is registered and available in ZRC since 1995 (K. Lim, pers. comm. to U. Schliewen 2005) as ZRC 38448 [ex ZSM 27767]. This specimen belongs to ZSM and should be returned. The neotype is published as ZSM and not as part of "ZSM/CMK" like the comparative material which was collected with the neotype and published in the same work (e.g. "ZSM/CMK" 6481 (3)).

***Telmatherina antoniae* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 327–330, figs 3–5.

Holotype: "ZSM/LIPI" 27.

Paratypes: "ZSM/LIPI" 28, 29, 30; "ZSM/CMK" 6193 (8), 6269 (1), 6463 (4), 6510 (30), 6512 (15), 6517 (21), 6586 (16), 6588 (5, c&s).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Telmatherina obscura* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 330–332, figs 7.

Holotype: "ZSM/LIPI" 33.

Paratypes: "ZSM/CMK" 6576 (1), "ZSM/CMK" 6579 (2).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Telmatherina opudi* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 332–335, figs 9–10.

Holotype: "ZSM/LIPI" 34.

Paratypes: "ZSM/CMK" 6511 (42), 6518 (82), 6519 (31), 6585 (12), 6590 (3), 6593 (4); "ZSM/LIPI" 35 (10), 36 (3).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Telmatherina prognatha* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 335–337, figs 12–13.

Holotype: "ZSM/LIPI" 26.

Paratypes: "ZSM/CMK" 6462 (1), 6582 (1).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Telmatherina sarasinorum* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 337–340, figs 15–16.

Holotype: "ZSM/LIPI" 37.

Paratypes: "ZSM/CMK" 6575 (10), 6577 (2), 6584 (1), 6587 (1), 6591 (3), 6592 (2); "ZSM/LIPI" 38 (2).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Telmatherina wahjui* Kottelat, 1991** (a)

Ichthyol. Explor. Freshwaters 1 (4): 340–342, figs 18a–b.

Holotype: "ZSM/LIPI" 39.

Paratypes: "ZSM/CMK" 6465 (66), 6594 (6); "ZSM/LIPI" 40 (10).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Tominanga aurea* Kottelat, 1990** (d)

Ichthyol. Explor. Freshwaters 1 (3): 241–244, figs 12a–c.

Holotype: "ZSM/LIPI" 41.

Paratypes: "ZSM/CMK" 6496 (20), 6595 (2); "ZSM/LIPI" 42 (6).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

***Tominanga sanguicauda* Kottelat, 1990** (d)

Ichthyol. Explor. Freshwaters 1 (3): 244–245, figs 14–15.

Holotype: "ZSM/LIPI" 43.

Paratypes: "ZSM/CMK" 6211 (1), 6228 (4), 6480 (4); "ZSM/LIPI" 44 (3), 45 (1).

Remarks. No type material of this species is deposited in ZSM. See Introduction for details regarding the actual deposition of material and the use of museum abbreviations "ZSM/LIPI" and "ZSM/CMK".

Tetraodontidae

***Carinotetraodon chlupatyi* Benl, 1957**

Opusc. Zool., München, 5: 1–2, 1 fig.

Holotype: ZSM 15419, "area north of Bangkok" (Thailand); don: P. Chlupaty, 1956/1957.

Remarks. Published as "provisional description" of then still alive aquarium specimens. Benl described

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the species based on both available aquarium specimens, but he indicated that only the holotype will be deposited in ZSM after preservation. Benl gives no distinguishing features that would allow unambiguous identification of this "Typus" from Benl's provisional description. It is doubtful whether the "Typus" retained by ZSM is the specimen intended to be the "Typus" and mentioned in the text. However, Terofal explicitly inventoried and marked ZSM 15419 as "Typus" in the handwritten inventory. The second specimen, which should then be the paratype, was apparently not intended to be deposited in ZSM (or any other museum) and / or was likely not preserved at all; it was not found during a type search in 2005 (D. Neumann). According to Tan (1999) in synonymy of ***Carinotetraodon lorteti*** (Tirant, 1885). Type by monotypy of the genus *Carinotetraodon*, Benl, 1957.

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