

## On the intergeneric hybrids in cetaceans

Jean-Pierre Sylvestre and Soichi Tasaka

4, allée de la forêt, 92360 Meudon-la-Forêt, France

Société d'Etudes des Cétacés et Tourisme de Tadoussac, 637, route 138, Baie-Sainte-Catherine, Province du Québec,  
G0T 1A0, Canada

Shimoda Floating Aquarium, 3-22-31 Shimoda-shi, Shizuoka-ken, 415 Japan

### Summary

In the order Cetacea, 22 interspecific hybrids have been recorded: 3 in wild and 19 in captive animals. The genus *Tursiops* is always one of the parents. Among the other parents, all belong to the suborder of toothed whales, and include the genera *Grampus*, *Steno*, *Pseudorca* and *Globicephala* where there is a great uncertainty in classification. Twelve animals were still-born with premature birth and only 2 among the captive intergeneric hybrids has lived more than a year.

A discussion follows concerning the taxonomy of these intergeneric hybrids.

### I. Introduction

Zoologists have recorded several hybrids between different genera. Concerning the cetaceans several hybrids have been recorded, in particular in captive animals. Some articles have been published on each cetacean hybrid but no investigation has been undertaken on all cetacean hybrids and no discussion has been published about the taxonomical studies based on these hybrids. This paper is a preliminary report and may be a beginning of some long and further investigations on the cetacean hybrids. It seems important to include a review of taxonomy of the 5 cetacean species before speaking about the hybrids and discussing a proposition concerning the new position of few species in the taxonomy of Odontoceti, from the results of that investigation.

### II. Taxonomy

In this investigation, we have recorded 22 hybrids between 5 different species. These species are the Bottlenosed Dolphin *Tursiops truncatus* (Montagu, 1821), the Risso's Dolphin *Grampus griseus* (Cuvier, 1812), the false killer whale *Pseudorca crassidens* Owen, 1846, the Rough-toothed Dolphin *Steno bredanensis* (Lesson, 1828) and the Short-Finned

Pilot Whale *Globicephala macrorhynchus* (Gray, 1846). In taxonomy, we have some problems for the position of genus *Steno* and *Grampus* but we are going to discuss their different taxonomical positions in this chapter.

The Bottlenosed Dolphin *Tursiops truncatus* (Montagu, 1821) belongs to the family Delphinidae characterized by the presence of a beak (or rostrum), by two fused cervical vertebrae, by more than 20 teeth on each side of upper jaw and having a length less than 4 m. Cetologists distinguish in the genus *Tursiops* Gervais 1855, one species *Tursiops truncatus* (Montagu, 1821) divided into 3 subspecies, the Atlantic Bottlenosed Dolphin *T. t. truncatus* (Montagu, 1821), the Pacific Bottlenosed Dolphin *T. t. gilli* (Dall, 1873) and the Indian Bottlenosed Dolphin *T. t. aduncus* (Ehrenberg, 1832). Some authors (Nishiwaki, 1966; Rice, 1977; Rice & Scheffer, 1968; Duffield, 1975) have put the above subspecies at a full specific level. However, a host of authors described local geographical variations of Bottlenosed Dolphins.

On May 20, 1978, in the Okinawa Expo Memorial Park Aquarium, Japan, a birth of a hybrid between the two subspecies *T. t. gilli* and *T. t. aduncus* has been recorded. The mother (the Pacific subspecies) was transported to Okinawa Expo Aquarium on November 17, 1976 and she gave birth 1.5 years after transport. The interspecific hybrid is a male with a body length of 241 cm and a body weight of 151 kg as of May 1984. This dolphin joined the dolphin show at 5 years old and was in good health during our visit to Okinawa on September, 25 and 26, 1984.

The Rough-toothed Dolphin *Steno bredanensis* (Lesson, 1828), belongs to the family of Delphinidae, but in 1966, the English zoologist Fraser, placed the genus *Steno* into the family of Stenidae on the basis of a variety of morphological features. For Fraser (1966), the genera *Sotalia*, *Sousa* and *Steno* belong to a family within the family of Delphinidae and

he placed those two families in a super family Delphinidae. Watson (1981) has kept the family of Stenidae in his classification but without using a superfamily. Nishiwaki (1972) kept the positions of *Sotalia*, *Sousa* and *Steno* in the family of Delphinidae without creating a subfamily. In our opinion, the morphological features described by Fraser (1966) are not valid to distinguish those 3 genera into a new family but may be valid for a new subfamily of Stenidae inside the family of Delphinidae. In the genus *Steno* (Gray, 1823), only one species had been described but a second form, *Steno perniger* (Blyth, 1848) may be considered as a species (Morzer Bruyns, 1971).

The Risso's Dolphin *Grampus griseus* (Cuvier, 1812) gives us some problems in taxonomy. Many cetologists put the genus *Grampus*, (Gray, 1866) into the family of Delphinidae (Morzer Bruyns, 1971; Rice, 1977; Rice & Scheffer, 1968; Scheffer & Rice, 1963; Watson, 1981). Nishiwaki (1966), proposed to place it into a special family, the Grampidae. By comparing the anatomy, the Risso's Dolphin is different from the other dolphins: it has not a distinct beak, has 6 fused cervical vertebrae, no teeth on the upper jaw and few on the lower jaw. However, the cetologists keep the position of Risso's Dolphin in Delphinidae. We distinguish in the genus *Grampus*, only one species.

The False Killer Whale *Pseudorca crassidens* (Owen, 1846) and the Short-Finned Pilot Whale *Globicephala macrorhynchus* (Gray, 1846), belong to the family of Delphinidae with the Killer Whale *Orcinus orca* (Linnaeus, 1758), the Pygmy Killer Whale *Feresa attenuata* (Gray, 1875), the Melonheaded Whale *Peponocephala electra* (Nishiwaki & Norris, 1966) and the Long-Finned Pilot Whale *Globicephala melaena* (Traill, 1809). But Nishiwaki (1966) placed those 5 genera into the new family of Globicephalidae, characterized by a beak not distinct, 3 or more fused cervical vertebrae and by the number of teeth less than 15 on each side of both jaws. Watson (1981) keep the family of Globicephalidae in his taxonomy.

In the genus *Pseudorca* (Reinhardt, 1862), only one species is described. In the genus *Globicephala* (Lesson, 1828), two species are recognized.

### III. Checklist of Cetacean Hybrids

Twenty-two hybrids between 5 different genera, have been recorded in this report. All are intergeneric hybrids.

#### *Hybrids between Tursiops and Grampus*

We begin the checklist with the intergeneric hybrid *Tursiops* × *Grampus* because it has been the first described.

#### *The three anomalous dolphins*

On May 31, 1933, 3 strange dolphins were found stranded in Blacksod Bay, West coast of Ireland. Some photographs were taken and the skeletons of each specimen were secured for National Museum of Ireland and were sent to Dr. Fraser (1940) of British Museum (Natural History). The references of the 3 dolphins given by the National Museum of Ireland are as follows:-

—No. 66: 1933, a female of 2286 mm in length.

—No. 67: 1933, a female of 2489 mm in length.

—No. 68: 1933, a male of 2692 mm in length.

The two females had a beak, the length of snout was 8.90 cm for No. 66 and 6.35 cm for No. 67. The male did not have a beak. The colour of the skin was black above and white on the belly. By the external morphology, No. 66 resembled the Bottlenosed Dolphin but the two other specimens resembled no known cetacean species.

The specimen No. 68: 1933 which was the largest specimen, has been compared with the Risso's Dolphin and many osteological features in the skull and the skeleton suggested the close affinity of this individual with that of Risso's Dolphin. However, No. 68 had 9 teeth on the upper jaw. For Fraser (1940), there is a convincing evidence of the closeness of No. 68 to *Grampus* in the form of the skull and lower jaw, the ear bones, the number and form of vertebrae, the form of the hyoid bones, sternum, humerus and ulna.

The specimen No. 66: 1933 was very similar to the Bottlenosed Dolphin, but its number of teeth was below the known range of *Tursiops*.

The specimen No. 67: 1933 occupied the intermediate position between No. 66 and No. 68 with skull and lower jaw form, in the number of vertebrae, in the shape of vertebrae, sternum hyoids, humerus and ulna.

There is an important difference concerning the number of fused cervical vertebrae between *Grampus* (6 fused cervical vertebrae) and *Tursiops* (2). In No. 66, the two cervical vertebrae (atlas and axis) are fused and the five remaining are free. In No. 67, the two cervical are fused together, but the third and fourth cervical are also fused together. The three last cervical vertebrae are free. In No. 68, the seven cervical are fused together and the last one only by the neural arch. The posterior epiphysis of the cervical VII is free. We notice that in No. 66 and No. 67, the two cervical vertebrae (atlas and axis) are fused together as in *Tursiops*, but in No. 67 the 3 following cervical are fused together. The specimen No. 68 had more fused cervical vertebrae than in *Grampus*. In the number of fused cervical vertebrae, No. 66 is close to *Tursiops*, No. 68 is close to *Grampus* and No. 67 is in an intermediate position between *Tursiops* by having two first vertebrae fused and *Grampus* by having the other three

vertebrae fused. Fraser (1940), has judged that the 3 specimens were without trace of pathological malformation or sign of injury. He wrote that they are the results of intraspecific hybridization between the Bottlenosed Dolphin, certainly the Atlantic subspecies, and Risso's Dolphin.

The causes of the death of those three specimens are unknown but it is strange to see these dolphins found stranded together. Probably, the three dolphins lived together and were the calves of the same cow. No chromosomal studies have been made to prove the hybridity of these three dolphins.

#### The thirteen hybrids in captivity

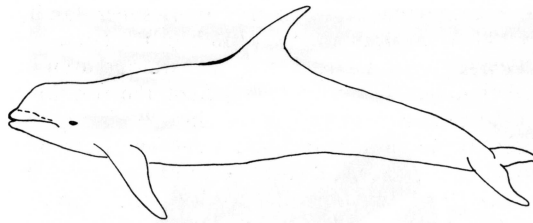
In Japan, the Enoshima Marineland has recorded 13 births of hybrids (*Tursiops* × *Grampus*) among about 90 births of cetaceans (Hirosaki, 1984, personal communication).

The first birth has been recorded on September 29, 1978 between a female Bottlenosed Dolphin (sp. No. 165), 290 cm in length and weighing 280 kg, and a male Risso's Dolphin (sp. No. 128), 300 cm in length and weighing 280 kg. Two copulations between the parents had been observed: one on September 13, 1977 and the second on October 2, 1977. The newborn (sp. No. 72) was a female and was alive on our visit to Enoshima Marineland in September 1984 (Figs 1, 2 and 3). During the copulations, there were a mature male Bottlenosed Dolphin, 310 cm in length and a mature male False Killer Whale, 431 cm in length in the same pool. The hybrid's nickname was *Kurichan*. She lived for 6 years and 7 months and died on May 1, 1985 of pneumonia. The length after death was 277 cm and the weight was 190 kg.

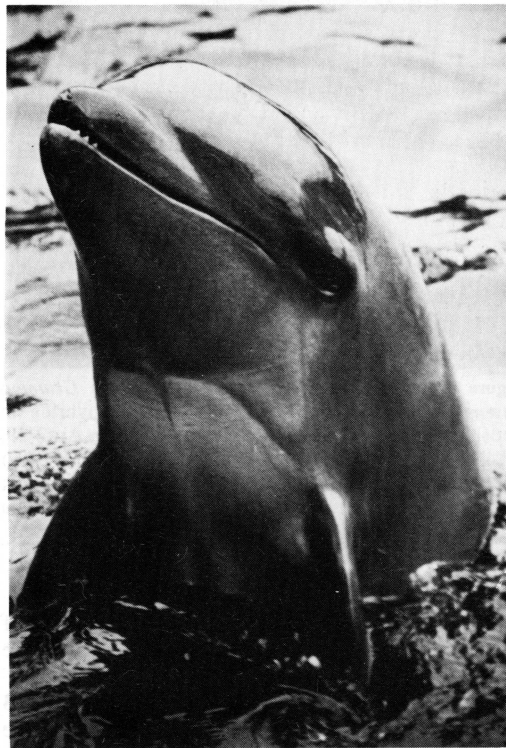
The second birth was recorded on September 19, 1979, between a female Bottlenosed Dolphin (No. 161), 291 cm in length and weighing 246 kg and the same Risso's Dolphin. No observation of copulation had been made before the birth. The newborn (sp. No. 77) was a female, lived less than 8 months and died on April 9, 1980. Its length after its death was 192 cm. From an electrophoretic analysis on some blood components of that hybrid, by comparing with that of Bottlenosed Dolphin and Risso's Dolphin, Sezaki, *et al.* (1981) concluded that the newborn No. 77 was really a hybrid of the two genera *Tursiops* and *Grampus*. During mating, there was a False Killer Whale, 431 cm in length in the same pool.

The third birth was recorded on June 27, 1980 between a female Bottlenosed Dolphin (No. 123), 290 cm in length and weighing 280 kg and the same Risso's Dolphin. No observation of copulation had been made. The newborn (sp. No. 78) was a male, lived less than 5 months and died on October 31, 1980. Its length after death was 186 cm.

The fourth birth was recorded on October 3, 1981



**Figure 1.** Kurichan: the female intergeneric hybrid between *Tursiops truncatus* and *Grampus griseus* (Sp. No. 78) born in Enoshima Marineland on June 27, 1980 (4 years and 3 months after birth).



**Figure 2.** Head of Kurichan, the female intergeneric hybrid *Tursiops* × *Grampus*. This hybrid has been named *Tursio-grampus grisacatus* by the Japanese cetologists (Photo: courtesy of Yoshitsugu Hirosaki, Enoshima Marineland, Japan).

between a female Bottlenosed Dolphin and the same Risso's Dolphin. No observation of copulation had been made. The still-born (sp. No. 80) was a female.

The fifth birth was recorded on July 3, 1982 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The newborn (sp. No. 83) was a male, lived 3 months and died on October 17, 1982.

The sixth birth was recorded on July 3, 1982 between a female Bottlenosed Dolphin and the same



**Figure 3.** Head of the male Risso's Dolphin *Grampus griseus* who is the father of the thirteen hybrids in Enoshima Marineland. This individual died on April 19, 1984. By comparing this figure with the Fig. 2, we can notice that Kurichan has the same drawn line on the bust than in the father. (Photo: courtesy of Yoshitsugu Hirotsaki, Enoshima Marineland, Japan).

Risso's Dolphin. The still-born (sp. No. 84) was of unknown sex and had been eaten by a killer whale which lived in the same pool.

The seventh birth was recorded on May 27, 1983 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The still-born (sp. No. 85) was a male.

The eighth birth was recorded on July 30, 1983 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The newborn (sp. No. 86) was a male, lived 21 days and died on August 19, 1983.

The ninth birth was recorded on November 22, 1983 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The Bottlenosed Dolphin gave birth to a male near-term foetus (sp. No. 87) weighing 0.9 kg and having a length of 36.5 cm. This specimen is preserved in formalin solution in Enoshima Marineland.

The tenth birth was recorded on March 22, 1984 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The still-born (sp. No. 88) was a

male weighing 19.5 kg and having a length of 129 cm.

The eleventh birth was recorded on June 25, 1984. A female Bottlenosed Dolphin gave birth to a female still-born (sp. No. 90) weighing 30 kg and having a length of 138 cm.

The twelfth birth was recorded on October 2, 1984 between a female Bottlenosed Dolphin and the same Risso's Dolphin. The still-born (sp. No. 91) was kept several days in the mouth of the cow and is preserved in a formalin solution in the Enoshima Marineland. Its length was 137 cm and weight is 29 kg.

The thirteenth and last birth was recorded on December 1, 1984 between a female Bottlenosed Dolphin named *Lu-Ka* (sp. No. 138) and the same Risso's Dolphin. The still-born was kept seven days by the cow. The hybrid was 112 cm long with a weight of 15.5 kg.

Unfortunately, the male Risso's Dolphin which gave birth to these thirteen hybrids, died on April 19, 1984. (Fig. 3). The one living specimen in September 1984, 'Kurichan' (Figs. 1 and 2) seemed by its morphology to be placed in an intermediate position between *Tursiops* and *Grampus*. 'Kurichan' has the same colour as a Bottlenosed Dolphin, with a small and distinct rostrum, which is absent in *Grampus* and longer in *Tursiops*. The shape of the dorsal fin was the same as *Grampus* and the melon was a little more predominant than in *Tursiops*. From the number of teeth on each side of each jaw (Hirotsaki, *et al.*, 1981), the three first hybrids are closer to *Tursiops* than to *Grampus*. The Risso's Dolphin has no teeth on the upper jaw and has only a range of 2-7 teeth on each side of lower jaw. The Bottlenosed Dolphin, has an average number of 23 teeth on each side of the upper jaw and 22 for the lower jaw. The average of erupted teeth for the three first hybrids is 16 on each of the upper jaw and 14.3 for the lower jaw. From the results of the number of teeth, the position of the three hybrids is placed between *Tursiops* and *Grampus*. It would be interesting to know the number of fused cervical vertebrae for the living specimen. No chromosomal studies have been made to prove the hybridity of these thirteen individuals.

#### *Hybrids between Tursiops and Pseudorca*

The hybrid between Bottlenosed Dolphin and False Killer has been recorded only in captive animals and only in the Kamogawa Sea World, Japan. All of these 4 hybrids have been made between the subspecies *Tursiops truncatus gilli* (Dall, 1873) and the species *Pseudorca crassidens* (Owen, 1846). Unfortunately, three were still-born and the fourth lived a short time (Nishiwaki & Tobayama 1982).

The first birth has been recorded on January 29, 1980 and was a female deadborn (sp. No. KSW-55)

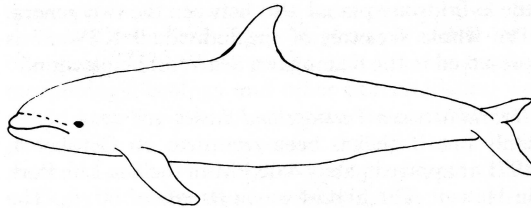
with a length of 74 cm. The cow was 'SLIM', a Pacific Bottlenosed Dolphin of 289 cm. The father was 'LEO', a False Killer Whale of 409 cm. The period of captivity for the both individuals was 10 years. Two copulations between the parents have been recorded, on August and October 1979.

The second birth has been recorded on April 30, 1981 and was a male still-born (KSW-56) with a length of 116 cm. The cow was 'SUZII', another Pacific Bottlenosed Dolphin of 284 cm and having a period of captivity of 5 years. The father was 'LEO'. The copulation between the two animals has been observed on April 1980.

The third birth has been recorded on May 3, 1981 at 16:45 hours and was a female newborn (KSW-57) which lived 276 days and died on February 2, 1982. The cow was 'SLIM', the mother of No. KSW-55 and the father was also 'LEO'. The staff of Kamogawa Sea World have observed the first suckling five hours after the birth. The newborn had begun to swim apart from the mother after 19 days and was attracted by food after 74 days. The hybrid took food about a month earlier than the calves of *Tursiops* (Nishiwaki & Tobayama, 1982). The average weight of fish taken per day was 0.19 kg on August, 0.5 kg on September, 1.3 kg on September and 1.4 kg on January. The calf's appetite decreased on 273rd day after birth and died three days later. The cause of death was diagnosed as an acute-pneumonia but it remains a doubt that whether death was indirectly or directly caused by its abnormal blood composition from the parents: species so different from each other by morphology and the anatomical features. The body length after death was 190 cm and it weighed 81.6 kg. The mating behaviour between the parents had been observed from April to June 1980. The colour of the calf was black like its father but it showed the light-coloured 'fetal folds' that are often present in newborn Delphinids. Its head was characterized by a short whitish rostrum (Figs 4 and 5).

The fourth birth was recorded on July 7, 1981 and concerned a male still-born (KSW-58) having a length of 121.5 cm. The cow was 'FLIP', a Pacific Bottlenosed Dolphin of 278 cm with a period in captivity of 10 years. 'LEO' was the father. The copulation has been observed on July 1980. The staff of the Japanese oceanaria have observed a Pacific White Sided Dolphin *Lagenorhynchus obliquidens* (Gill, 1865), chasing the female Bottlenosed Dolphin. The only male *Tursiops* was an immature.

By examining the data obtained for the length of the upper jaw to the apex of melon : the rostrum of the hybrid specimens is shorter than that of *Tursiops*. The body colour of the 4 hybrids was darker than that of *Tursiops*. The specimens KSW-55, 56 and 58 were darker than the calf KSW-57. There is not a big variation in the standard



**Figure 4.** The female intergeneric hybrid between *Tursiops truncatus* and *Pseudorca crassidens* (Sp. No. KSW-57) born in Kamogawa Sea World, Japan on May 3, 1981. This individual lived 276 days.



**Figure 5.** The female intergeneric hybrid between *Tursiops* and *Pseudorca*, feeding in a tank of the Kamogawa Sea World (Photo: courtesy of Teruo Tobayama, Kamogawa Sea World, Japan).

phalangeal formulae between adult *Tursiops* and *Pseudorca*. By the external shape, the flippers of the four hybrids had the same characteristics of *Pseudorca* but phalangeal formulae does not suggest a clear trace to False Killer Whale. From X-ray examination, the dental formulae of those four hybrid specimens are placed just between *Tursiops* and *Pseudorca*. Concerning the vertebral formulae, thoracic, lumbar and caudal : the four hybrids are placed between the two genera. For the shape and measurement values of teeth : upper and lower jaw,

the hybrids are placed also between the two genera. The whole skeleton of the individual KSW-57 is preserved in the Kamogawa Sea World collection.

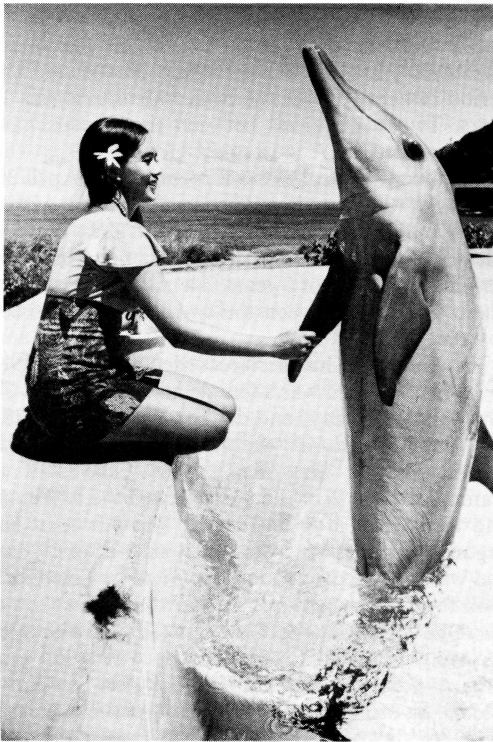
#### *Hybrid between Tursiops and Steno*

Only one birth has been recorded, on October 4, 1971 at approximately 4:00 PM in the Sea Life Park in Hawaii. The hybrid was a female of 60 cm. The cow was a female Rough-toothed Dolphin *Steno bredanensis* (Lesson, 1828) named by the staff of the oceanaria : 'Makalani'. The father was a Bottlenosed Dolphin. 'Makalani' was in the pool with an adult male Atlantic Bottlenosed Dolphin and an adult male Pacific Bottlenosed Dolphin. The two males had some contacts with the female Rough-toothed Dolphin. The colour of calf was light grey on the back and the side, grading to a white on the belly. In Dohl, Norris & Kang (1974), the hybrid closely resembled a *Tursiops* calf, except for a *Steno*-like barrel shape abdomen. The neck was well demarcated. The shape of the head was placed in an intermediate position between the genus *Steno* and *Tursiops* (Figs 6 and 7). The melon was more sharply defined than in *Steno* and more sloping than in *Tursiops*. The dorsal fin is situated between the shapes of Rough-toothed Dolphins and Bottlenosed Dolphins. From the observations, it seemed that the pectoral fins of the newborn was like that of *Steno*. After the 5th day, the rostral whiskers had disappeared and the dorsal fin and fluke were extended. After two weeks, the neck demarcation was less distinct. At the end of two months, the juvenile hybrid resembled a juvenile *Tursiops* and had the subtle *Steno*-like features. Three months after the birth, its appearance was that of a juvenile Bottlenosed Dolphin, the subtle *Steno*-like features remained. Eighteen months later, its *Steno*-like features increased, especially on the head and the rostrum (Figs 6 and 7).

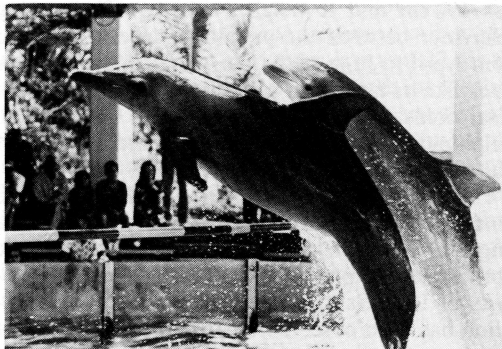
It gained approximately 15 cm in length, two months after the birth and was fully pigmented. In Dohl, Norris & Kang (1974) the locomotion, social behaviour, feeding behaviour and respiration of the newborn hybrid is described. The hybrid died on September 27, 1975 and the cause of death was a twisted intestine.

#### *Hybrid between Tursiops and Globicephala*

The Sea World of San Diego in California, recorded on May 1981, a near-term foetus of a *Globicephala* × *Tursiops*. The Long-Finned Pilot Dolphin *Globicephala macrorhynchus* (Gray, 1846), was the cow. Estimation of the gestation period for the pregnancy is evaluated by comparison of progesterone levels in frozen serum samples available for a two years period prior to this birth. From the photographs taken on this hybrid, Californian zoologists have noticed a well-formed calf exhibiting an interesting



**Figure 6.** The female hybrid *Steno bredanensis* × *Tursiops truncatus* in the pool of the Sea Life Park, Hawaii. The neck is well demarcated. (Photo: courtesy of Marilyn C. Lee, Sea Life Park, Hawaii).



**Figure 7.** The female hybrid *Steno* × *Tursiops* during a breaching show with Bottlenose Dolphins in Sea Life Park, Hawaii. The shape of the head is in intermediate position between *Tursiops* and *Steno* (Photo: courtesy of Marilyn C. Lee, Sea Life Park, Hawaii).

combination of intermediate *Tursiops* and *Globicephala* characteristics (Antrim & Cornell, 1981). The remains of this near-term foetus are maintained for further studies in Sea World.

#### IV. Discussion

Study on the cetaceans hybrids, mainly on intergeneric and interspecific hybrids, is recent. However, for the moment it is impossible to give a definitive conclusion on intergeneric and interspecific hybrids to modify the place of few species in taxonomy. But it is interesting to examine this kind of problem.

The number of intergeneric hybrids is 22 (13 males, 7 females and 2 unknown sexes). Among them, 3 have been described in wild animals (*Tursiops* × *Grampus*) and 19 in captivity (*Tursiops* × *Grampus*, *Tursiops* × *Pseudorca*, *Tursiops* × *Steno* and *Tursiops* × *Globicephala*). The captive hybrids are accidental and none are the result of scientific operations. The number of hybrid still-births is 12 with premature birth. Two of the captive hybrids have lived more than a year (all females). On September 1984, only one hybrid was alive (*Tursiops* × *Grampus*).

The genus *Tursiops* is included in each intergeneric and interspecific hybrids. In captivity, mainly the genus *Tursiops* is the cow : being the main species held in captivity, this phenomena may be considered as logical (except for *Tursiops* × *Steno*).

In the wild, the only known hybrid is *Tursiops* × *Grampus* (Fraser, 1940). Perhaps in the future, we will record a new intergeneric hybrid on wild cetaceans where *Tursiops* will be absent. Hybrids are only recorded in Odontoceti suborder and none in Mysticeti. It is strange because man has hunted the baleen whales for several centuries and has studied them more than the toothed whales. No whaling notes exist concerning a strange form of a baleen whale individual probably resulting from an interspecific hybrid.

Dubois (1981a, 1981b & 1983) has proposed a new criterion to define genera in zoology. It suggests that genera should be defined as evolutionary, phylogenetic, genetic and ecological units. The definition of genetic units interests us in this problem. Genera should include species showing close genetic similarities, and in particular when two species are able to produce viable adult hybrids : they should be included in a single genus (Dubois, 1981b). If these two species has previously been attributed to two distinct genera, the later should be merged together.

For the cetaceans, different experts are not always in agreement, and we have a great instability in their classification and their generic nomenclature. If the two species (A and B for example) produce a viable adult hybrid, the experts must examine a second time the validity of taxa I and II. At the same time, to include these two genera in a single genus, we must reunite the other species which were filed in the

same genus of A and the same genus of B. In summary, we reunite the old genera I and II into one genus. If the two genera are different by the morphology, ecology and other characteristics, we would keep the distinct subgenus statute inside the new genus. If no intergeneric hybrids have been recorded or the two genera don't produce a viable adult hybrid or we have no information : we never must use these criteria to attribute the two species to two distinct genera.

It is interesting to do some artificial intergeneric hybrids. If we obtain some interesting results as a viable adult hybrid between two different genera belonging to two different subfamilies or families : the employment of this criterion would involve an overthrow in the systematics of cetaceans. After this overthrow, we would have a greater stabilization in the systematics.

Of the obtained results, the following intergeneric hybrids *Tursiops* × *Steno*, *T.* × *Pseudorca* and *T.* × *Globicephala* did not give birth to a viable adult. But for the intergeneric hybrid *Tursiops* × *Grampus*, 3 specimens were described on wild stranded physical immatures (Fraser, 1940) and among the 13 births in captivity, one was alive on April 1985. Unfortunately, this hybrid died on May 1985. If 'Kurichan' had survived to adult age, it would be possible to examine a second time the taxonomical position of the genus *Tursiops* and *Grampus* and include the two species into a single genus. Since *Tursiops* and *Grampus* are different by morphology and by the internal anatomical characteristics, we would keep the distinct subgenus inside the new genus. 'Kurichan' has been named by the Japanese cetologists *Tursiogrampus grisacatus* (in : Ellis, 1981).

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